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BENEDICT

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Abstract

The **BENEDICT** (Benchmarking European Development Cooperation (via) ICT) Project studied the Information and Communication Technologies for Development (ICT4D) policies within the European Union. The research was carried out as a policy analysis with three case studies.

The report starts by outlining the commitments of the World Summit for Information Society (WSIS) and the Millennium Development Goals (MDGs). The MDGs and the WSIS process currently form the basis for development cooperation broadly speaking and more especially so for the Information and Communication Technologies for Development. However, this research does not elaborate in detail the WSIS commitments or the MDGs, but concentrates on some aspects of the Information and Communication Technologies for Development which are related to these two international processes.

The report sets out the context for development cooperation in general for information and communication technologies for development (ICT4Ds) specifically in the selected focus areas for the study. The Development Policy context of the European Union, Finland, Ireland and Denmark are all briefly elaborated. ICT4D does not have a very strong position in development policy planning and implementation. Finland and Denmark have taken steps to give guidelines and directions for ICT4D.

Three concepts which were seen essential for understanding Information and Communication Technologies for Development were selected for closer analysis; Digital Divide, Social Inclusion and Shared Knowledge. All of these three concepts have been studied and analysed based on the latest research and conceptual thinking. Different perspectives to these key concepts exist in the ICT4D debate. There is lot of ambiguity in the terminology related to ICT4D and conceptual clarification would be needed.

Three countries were selected for closer case studies; Finland, Ireland and Denmark. In addition to the three case study countries, the policies of the European Union in relation to Information and Communication Technologies for Development were also studied. The use of ICTs for development tends to parallel the ways and extent to which ICTs were embedded in the national culture and technological infrastructure.

Information and communication technologies are still not seen as a key component to all development cooperation. Mainstreaming ICT4D into overall development cooperation policies and implementation strategies is still needed.

Keywords: Information and Communication Technologies for Development (ICT4D), World Summit on Information Society (WSIS), Development policy, Millennium Development Goals (MDG).

Executive Summary

This work has been commissioned by the Ministry for Foreign Affairs for Finland. Although the Ministry has commissioned the research, the report has been carried out by an academic research team and published by the University of Lapland. The report does not represent an official opinion of the Ministry for Foreign Affairs for Finland and the authors take all responsibility for the contents of the report.

This report starts by outlining the commitments of the World Summit for Information Society (WSIS) and the Millennium Development Goals (MDGs). The MDGs and the WSIS process currently form the basis for development cooperation broadly speaking and more especially so for the Information and Communication Technologies for Development. However, this report does not elaborate in detail the WSIS commitments or the MDGs, but concentrates instead on some aspects of the Information and Communication Technologies for Development which are related to these two international processes.

The report sets out the context for development cooperation in general for information and communication technologies for development (ICT4Ds) specifically in the selected focus areas for the study. The Development Policy context of the European Union, Finland, Ireland and Denmark are all briefly elaborated.

Three concepts which were seen essential for understanding Information and Communication Technologies for Development were selected for closer analysis; Digital Divide, Social Inclusion and Shared Knowledge. All of these three concepts have been studied and analysed based on the latest research and conceptual thinking.

The concept of Digital Divide is usually used to describe the division between rich and poor, North and South, developed and developing countries. However, this type of definition catches only part of the picture. The Digital Divide within both rich and poor countries is becoming more and more a challenge. Governments have launched Information Society Programmes to address this issue nationally. The Finnish Information Society Programme, for example, does refer to the WSIS process, but there is no clear connection between the Development Policy Guidelines and the National Programme. This may illustrate the lack of coherence within governmental structures, where different ministries are safeguarding only their own specifically targeted sectors.

Yet for all the international debate and millions of words written about the digital divide, very little systematic empirical research or studies over time have been done to confirm claims and counterclaims and to guide policymakers on how this technology actually affects the development of low-income countries.

An inclusive Information Society should be built via social inclusion. Social inclusion will not happen unless the majority of a community (or a society) accepts a shared understanding of the prerequisites for it. Properly understood, development policies and their implementa-

tion can help individuals, families, and communities to participate in and control their own lives in the key areas of economic issues, employment/unemployment, health care, education, and housing. Leisure time activities, cultural activities and political activities are also an important elements of social inclusion in the Information Society. Sometimes these non-formal activities are more important in supporting personal growth and innovation than the attempts by societies to implement formal policies. However, we must remember that social exclusion can be a long-standing problem and if it has existed before the large scale usage of information and communication technologies, it will probably still continue to exist even after ICTs have become more widespread. It is a truism that technology cannot solve societal problems on its own.

E-Inclusion specifically and social inclusion generally can surely help international donors and developing countries as useful concepts when widely used and well understood. But, once again, the global processes involved in introducing concepts and then their practical implementation can have an adverse effect where a comprehensive repositioning of individuals, places, and classes and productive means will eventually in the end become the true basis of 'inclusion'.

Researchers argue that Poverty Reduction and Social Inclusion Strategies and the reforms based on these strategies are managed from top to down, thus drawing potential adversaries into managed dialogues and partnerships. If this is indeed the case, it would certainly help to control and manage those who are seen as the most potential critics and opponents of the proposed reforms.

An Information Society cannot be built without sharing information, best practises and knowledge. This requirement was emphasised in the Geneva Declaration of Principles. Collecting, analysing and sharing knowledge is essential in enabling and promoting collaborative efforts in development. It is therefore somewhat surprising that at least some EU States have not seen fit to address these issues in their public documents. For example, there is no reference in the recent Irish Government White Paper on Irish Aid (Irish White Paper on Aid) to either the Information Society or to Shared Knowledge. On the other hand there is evidence of confusion about the nature of what constitutes Shared Knowledge in some policy documents. Danida on its 'Good ICT Practice – Lessons Learned in Education Sector' website – asserts, "Good ICT practice cases at school level demonstrate that information sharing and coordination between schools, NGOs, local government and MOE is valuable (e.g. Schoolnet and Uconnect in Uganda). Uconnect, which has strong support from MOE has supplied many schools with refurbished, used computers retrieved from Europe at very low-cost, and Schoolnet has had great success with connecting school computer labs through Local Area Networks (LAN), of which some are connected to the Internet with wireless technology such as VSAT". It is difficult to conceive how the provision of second-hand computers goes any way towards sharing information or knowledge.

Shared knowledge is an essential concept of knowledge-based aid. Knowledge-based aid is seen as an outcome of the combination of Post-Fordism, globalisation and the ICT Revolution. Together these components work together to enable the transformation of information into knowledge.

An interesting controversy in the processes of sharing knowledge has been pointed out by research. The contextual awareness in sharing knowledge (i.e., training participants from developing countries) has been recognised and emphasised. However, at the same time the use of ICT for distance learning may actually lead into even more standardised acceptance of universal knowledge where the context of the learners is even more distant than in traditional face-to-face training. They also argue for more evidence on the actual impact of the knowledge-based aid on the lives of the poor in the South.

Furthermore, the one-dimensional view of sharing knowledge results in claims such as this one by the Statement by the Danish Minister for Development Cooperation at the presentation of the World Bank's World Development Report 2007, "ICT tools have proven to be effective in creating dialogue, sharing knowledge, gathering reliable information, as well as promoting research. Knowledge sharing initiatives like PERI/Ghana and Healthvideo/Ghana are examples of ICT projects adding to these efforts. Additionally, the project of Equal Access – Digital satellite radio in Nepal, raises awareness on reproductive health, women's empowerment and HIV/AIDS in remote and isolated areas of Nepal, utilising a combination of satellite technology, radio, multimedia and solar panels, through which knowledge about HIV/AIDS has been increased in the communities." There is no sense here of the need to 'SHARE' knowledge rather than to simply transmit it.

In this report we have identified some of the ways in which the European Union and three EU member states support development in partner countries using a range of impacts of ICTs on economic and social development and growth. However, it has become clear that we need more knowledge about the most conducive conditions for making ICTs an effective instrument, for example, for the poor to improve their own standard of living. ICT applications in developing countries are often part of an overall strategy for economic growth, relying on the trickle-down effect to those in poverty. It is, as yet, unclear how ICT-related inputs to development have, or indeed can, match the problems and potentials of people living in poverty, such as illiterate people, unskilled labourers, self-employed micro entrepreneurs, subsistence farmers, women, people speaking minority languages or populations living in remote areas.

Our analysis of the ways in which these three EU states in particular prioritize the use of ICTs as a function of their development programme would seem to support the pre-theoretic assumption that the use of ICTs for development would tend to parallel the ways and extent to which ICTs were embedded in the national culture and technological infrastructure.

Our explorations of the manifold issues of digital divide, social inclusion and shared knowledge as highlighted in the WSIS Tunis Commitment have identified the disparate ways in which these terms are used and something of the ways in which these issues are affecting national internal policies. It has become clear that there is no shared understanding of the main concepts behind the policies. These main concepts include: Information and Communication Technologies for Development, Digital Divide, Social Inclusion and Shared Knowledge. Much clearer definitions of these concepts in the development policies and further on in the implementation of these policies are needed. Both academic and policy debate and discourse on these issues are available for policy planning purposes. It is crucial to get rid of the ambiguity of terminology used and take a firm stand on the key concepts.

The nature of policy statements is such that they are frequently bland and are the results of political compromises and consensus reached during the negotiation and preparation processes. This inevitably leads into situations where the statements become so broad that it is difficult to decipher the original intentions behind them. Whilst it is likely that this situation is irredeemable, we do well to take heed of its deleterious effect on both policy interpretation and implementation.

Eradicating extreme poverty is the utmost goal for development cooperation. The IT revolution made some glorious promises to the worlds poor: instant access to information and far-flung markets, political empowerment, greater growth, even the possibility that countries could leapfrog entire stages of development. But when none of that happened in a hurry, the excitement gave way to concern that rather than closing the wealth gap, IT was exacerbating it.

The World Development Report 2000/2001 "Attacking Poverty", the World Bank describes the road from poverty to well-being being built on empowerment, opportunity and security. It identifies four alternative strategies for poverty reduction, and their capacity to make use of ICTs:

- a production-oriented growth strategy, including pro-poor corrective measures;
- the sustainable livelihoods approach, putting people first;
- a distribution-oriented strategy, emphasising the redistribution of assets;
- a rights and empowerment strategy, promoting knowledge about basic rights and empowerment of people.

The role of ICTs in poverty reduction is not limited to reducing income poverty, but also includes non-economic dimensions— in particular, empowerment. A very useful checklist for Information and Communication Technologies for Development projects is presented in the Annex 2. We feel that this simple list (with the elaborations that can be found from the document referred to in the Annex 2.) could be valuable in order to find ways to enhance the fight against poverty via ICT.

Finland is an exception by having dedicated personnel for the Information and Communication Technologies for Development Cooperation. Dedicating one advisor to the Ministry headquarters and another to the Embassy in Pretoria, South Africa, is an example of the appreciation of these issues in the Development Cooperation policy planning and implementation. The European Union, by comparison, has just one person and Denmark and Ireland don't have any personnel allocated for ICT4D.

It is not clear how the development cooperation partner countries are selected for individual donor countries. A mixture of historical, religious and political ties can be found behind the decisions. The international donor community has largely agreed by default to untie their aid for developing countries one with another. However, one may question whether the 'aid for trade' concept has been brought in to substitute the 'tied aid' concept? It is hard to detect what is the difference between the two.

Bridging the Digital Divide can leave the majority of people still to the other end of the bridge. Our research indicates that there is quite a lot of concern whether the ICT4D actually broadens the divide nationally in the developing countries. In the short time span this seems to be inevitable and the hope lies in long term development. There should be clear measures for ensuring that national digital divide is not widened through development cooperation effort in ICT.

Sharing knowledge and expertise are very vaguely used terms. In many cases the examples given, even in the policy documents seem to describe a process of knowledge transfer rather that actual knowledge sharing. True participation and ownership will not be felt if the traditional, indigenous knowledge and shared knowledge concepts are not clarified. Both the policies and their implementation should make very clear what is meant with these concepts and how these concepts are understood and implemented in planning, implementation and evaluation processes of development cooperation.

Social inclusion is quite often too narrowly understood. It is often reduced to concern only enabling access for disabled persons or other marginalised groups to the information society. This discourse misses the important aspect of inclusion: there is no inclusion without everyone included, also those who are not so visibly and obviously disadvantaged, those who are not disadvantaged at all – all of us, in all countries.

To some extent at the policy level but more definitely at the implementation level information and communication technologies for development still seem to be more about the ICT than about the Development. Infrastructure and technology still dominate in case studies and in exemplar pilot project lists. Mainstreaming ICT into development cooperation is still mostly understood as providing computers for project or sectoral workers in developing countries.

Regarding replication of successful implementation and use of ICT, DANIDA points to lessons learned that highlight that sustainable ICT innovations should always address a widely shared need or problem of the poor and to some extent build on and improve existing local technologies or approaches. Additionally, successful ICT innovation should:

1) Be simple to understand and to implement.
2) Be culturally and socially acceptable.
3) Be affordable to the (rural) poor in terms of financial and time constraints – most often ICT inclusion is funded by international donors in initiating stages.
4) Be low risk, and not endanger the basic survival of the poor.
5) Be able to modify if they do not work out, and
6) Should not have any harmful effect on the environment.

Despite the enormous amount of effort spent on the WSIS process, ICT4D is still mostly missing from the development cooperation policies of the member countries of the European Union. In this respect Finland and Denmark are exceptional. The Finnish policy is the best national ICT4D policy paper within those analysed in this research. This is not to say that all

work necessary has now been done in Finland or Denmark. As we have pointed out, more clarity, cohesion and mainstreaming are still needed in all countries wishing to enhance the Global Information Society.

Recommendations:

1. More cohesion is needed between national strategies for information society and national strategies for development cooperation within the member countries of the European Union. Cooperation between the respective government organisations have to be enhanced.

2. Clearer definitions of the key concepts for ICT4D are needed in the development policies and further on in the implementation of these policies.

3. More personnel for the Information and Communication Technologies for Development Cooperation are needed within government sections responsible for development cooperation.

4. It is not clear how the donor countries select the individual development cooperation partner countries, especially in ICT4D. More transparency is needed in outlining the selection process.

5. There should be clear measures for ensuring that national digital divide in the partner countries is not widened through development cooperation in ICT.

6. The policy documents seem to describe a process of knowledge transfer rather than actual knowledge sharing. Both the policies and their implementation should make clear how the concepts of traditional knowledge and indigenous knowledge are understood and implemented.

7. The concepts of social inclusion and inclusive information society should go beyond enabling access for marginalised groups into the information society.

8. Apparently, information and communication technologies for development are still more about ICT than Development. Infrastructure and technology should be a tool for overall development, not an outcome itself.

9. ICT4D should be mainstreamed to the overall development policies of the member countries of the European Union.

Finnish Summary – Suomenkielinen tiivistelmä

BENEDICT (Benchmarking European Development Cooperation (via) ICT)

Benedict on Suomen ulkoasiainministeriön tilauksesta tehty tutkimus, jonka toteuttivat tutkimusjohtaja Leo Pekkala (Lapin yliopiston Kasvatustieteiden tiedekunta, Mediapedagogiikkakeskus) ja Senior Learning and Teaching Fellow William Johnston (Manchester Metropolitan University). Tutkimuksessa esitettävät näkökulmat ja mielipiteet ovat tutkijoiden, eivätkä edusta Suomen ulkoasiainministeriön kantaa.

Tutkimuksessa analysoitiin tietoyhteiskuntaan liittyvää kehitysyhteistyöpolitiikkaa Suomen, Irlannin ja Tanskan sekä jossain määrin koko EU:n osalta. Kehityspoliittisia linjauksia on arvioitu suhteessa Vuosituhattavoitteisiin (Millenium Development Goals) ja Geneven ja Tunisin tietoyhteiskuntahuippukokouksen (WSIS) päätösasiakirjojen kehityspoliittisesti merkittäviin sitoumuksiin. Tutkimuksessa tarkastellaan WSIS prosessin sitoumusten ja Vuosituhattavoitteiden yhteyksiä kansallisiin ja EU:n kehityspoliittisiin linjauksiin, strategioihin ja uusiin aloitteisiin.

Yleisten kansainvälisten tavoitteiden lisäksi tutkimuksessa tarkastellaan lähemmin kolmea informaatioyhteiskuntaan liittyvän kehityspolitiikan keskeistä käsitettä. Digitaalinen kuilu (Digital Divide), sosiaalinen inkluusio (Social Inclusion) ja jaettu tieto (Shared Knowledge). Käsitteitä tarkastellaan sekä tutkimuskirjallisuuden että politiikka-analyysin kautta.

Digitaalisen kuilun käsite liitetään usein pelkästään teknologian saatavuuteen tai sen puuttumiseen. Käsitteen monipuolisempi määrittely, johon kuuluvat edellisten lisäksi ainakin sosiaaliset, kulttuuriset, taloudelliset ja teknologiset tekijät, olisi tärkeää. Digitaalinen kuilu on olemassa rikkaiden ja köyhien maiden välillä, mutta sen on todettu kasvavan myös niiden sisällä. Mikäli tätä keskeistä käsitettä ja siihen liittyviä tavoitteenasetteluja ei määritellä tarkasti, voidaan joutua tilanteeseen, jossa kehitysyhteistyö ja teknologiainterventio voi lisätä eriarvoisuutta ja syventää digitaalista kuilua kumppanimaissa.

Sosiaalinen inkluusio informaatioyhteiskunnassa voi toteutua vain, jos käsitteestä ja siihen liittyvistä ennakko-oletuksista ollaan samaa mieltä. Parhaimmillaan tieto- ja viestintäteknologian avulla voidaan edistää yksilöiden ja yhteisöjen osallisuutta ja valtaantumista. Mikäli eiosallisuus on kuitenkin ennen teknologiainterventiota yhteiskunnassa tai yhteisössä vahvana ja erilaisuuden hyväksyntä puuttuu, teknologian avulla ei voida saavuttaa kovinkaan paljon. Sosiaalista inkluusiota ei myöskään saa eriyttää tarkoittamaan vain keskustelua marginaalissa jo olevien ryhmien asemasta. Sosiaalisen inkluusion määrittelyyn tulee kuulua olennaisena osana koko kehitettävän yhteiskunnan rakenteiden ja diskurssien tarkastelu. Todellinen inkluusio voi toteutua vasta kun koko yhteiskunnan asenteet erilaisuutta kohtaan muuttuvat.

Jaettu tieto on yksi ehkä heikoimmin määriteltyjä kehitysyhteistyön peruskäsitteitä. Politiikkalinjauksissa käytetyt termit; jaettu tieto, alkuperäistieto ja perinteinen tieto ovat kaikki jossain määrin eri asioita. Tietoyhteiskuntaa (Knowledge Society) ei voida saavuttaa ilman, että

hyväksytään tiedon jakaminen ja erotetaan tämä selkeästi tiedon siirtämisestä. Tutkimusta varten läpi käydyn aineiston perusteella näyttää siltä, että tiedon aidon jakamisen asemesta vallalla on enemmän tiedon siirtäminen. Kehitysyhteistyöprojekteissa kehittyvään maahan suunnattu asiantuntijatuki tai koulutus saattaa usein olla länsimaisen, ylivertaisena ja parempana pidetyn tiedon siirtämistä. Alkuperäistieto tulee nostaa tasavertaiseen asemaan länsimaisen, eurooppakeskeisen tiedon kanssa. Tutkituissa politiikkalinjauksissa käytetyt ilmaukset ovat tältä osin horjuvia ja selkiinnyttämistä tarvitaan.

Äärimmäisen köyhyyden poistaminen on kehityspolitiikan ja sen avulla tehtävän kehitysyhteistyön keskeisin ylätavoite. Äärimmäiseen köyhyyteen kuuluvien haasteiden - kuten perusinfrastruktuurin puute (vesi, sähkö, viemäröinti), lukutaidottomuus, koulunkäynnin estyminen, lapsityövoiman käyttö, sairaudet, naisten epätasa-arvo – poistaminen teknologian avulla on haasteellista ja suoranaisten vaikutusten osoittaminen vaikeaa.

Tieto- ja viestintäteknologian kehittymisen ja informaatioyhteiskunnan rakentamisen myötä maailman köyhille on luvattu paljon. Tieto- ja viestintäteknologian nähtiin varsinkin teknologisen kehityksen alkuvaiheissa tarjoavan helpon ja nopean välineen digitaalisen kuilun ylittämiseen ja sosiaalisen inkluusion edistämiseen. Tässä teknologiahuumassa niin taloudelliset, sosiaaliset kuin koulutukselliset eriarvoisuudet kuviteltiin mahdolliseksi voittaa lähinnä teknologian avulla. On kuitenkin edelleen epäselvää missä määrin tieto- ja viestintäteknologialla voidaan edistää köyhyyden poistamista. Huolimatta runsaasta kansainvälisestä keskustelusta meillä on kuitenkin varsin vähän tutkittua tietoja informaatio- ja viestintäteknologian vaikutuksista kehitysyhteistyössä. Tieto- ja viestintäteknologian hyödyntämistä köyhyyden poistamiseksi on edelleen voimakkaasti kehitettävä ja tutkimusta tällä alueella on lisättävä.

Tutkittujen politiikkalinjausten osalta yhteisenä ongelmana voidaan todeta, että käytetyt käsitteet ovat epäselviä ja niiden käyttö horjuvaa. Tämä epätarkkuus ei voi olla vaikeuttamatta politiikan mukaisten sektorihankkeiden tai projektien suunnittelua, toteuttamista ja evaluointia. WSIS –prosessi oli hyvä alku keskeisten käsitteiden ympärillä käytävälle keskustelulle, mutta hajanaisuudessaan ja laajuudessaan se uhkaa hukuttaa olennaiset käsitteet tuotettuun tekstimassaan.

Tutkimuksen mukaan ne Euroopan Unionin jäsenmaat, joiden oma kansallinen strategia ja teknologian kehittämistyö on pitkällä, ovat myös pidemmällä informaatioyhteiskuntaan liittyvien kehityspolitiikan linjausten suhteen. Valtion oma suhde korkeaan teknologiaan näyttää siis olevan suhteessa siihen, kuinka tärkeänä tieto- ja viestintäteknologiaa pidetään kehitystyhteistyön tavoitteiden toteuttamisessa. Tutkituista valtioista Suomi ja Tanska erottuvat tässä suhteessa selkeästi edukseen verrattuna Irlantiin. Euroopan Unionin osalta informaatio- ja viestintäteknologia mainitaan useissa kehitysyhteistyötä koskevissa linjauksissa. EU:n informaatioyhteiskuntaa koskevissa linjauksissa yhteistyötä kehittyvien maiden kanssa tarkastellaan kuitenkin lähinnä taloudellisen yhteistyön näkökulmasta, mikä on jossain määrin ristiriidassa suhteessa EU:n yleisiin kehitysyhteistyölinjauksiin.

Tutkimuksessa tarkasteltiin lähemmin kolmen Euroopan Unionin jäsenmaan kehityspolitiikkaa informaatioyhteiskuntaan liittyen. Suomen ja Tanskan linjaukset ovat muodoltaan

erilaiset, mutta pohjautuvat kansainvälisiin sopimuksiin ja sitoumuksiin. Irlannin uudessa kehityspolitiikkalinjauksessa tieto- ja viestintäteknologia mainitaan lyhyesti ja politiikkalinjaus jää tältä osin erittäin suppeaksi. EU:n yleisiä kehityspolitiikkalinjauksia on yhtenäistetty, mutta Unionin sisäisten toimijoiden runsas määrä näyttäisi haittaavan informaatioyhteiskuntaa koskevan kehityspolitiikan yhtenäistä esittämistä. Tanskalla ja Irlannilla ei ole informaatioyhteiskuntaa koskevan kehityspolitiikan alueella pysyviä neuvonantajia eikä vastuullisia virkamiehiä. Mikäli tieto- ja viestintäteknologian merkitystä kehitysyhtestyössä halutaan kasvattaa ja kehittyvien maiden tietoyhteiskuntarakentamista tukea, on tämän sisältöalueen asiantuntijoiden ja neuvontantajien määrää lisättävä kehitysyhteistyöstä vastaavissa organisaatioissa.

Suomen informaatioyhteiskuntaa koskevan kehityspolitiikan linjausta voidaan pitää edistyneimpänä tutkituista. Tämä ei kuitenkaan tarkoita sitä, etteikö työtä riittäisi. Koheesiota eri hallinnonalojen ja eri tietoyhteiskuntaa koskevien strategioiden ja linjausten välillä on parannettava. Tällä hetkellä kansalliset tietoyhteiskuntastrategiat ja kehitysyhteistyöstrategiat eivät kohtaa. Politiikkalinjauksissa käytettäviä keskeisiä käsitteitä on selkiinnytettävä ja niiden tulee olla mahdollisimman yksiselitteisiä. Evaluointien jatkoseurantaan ja niissä annettavien suositusten toimeenpanoon on kiinnitettävä huomiota. Tietoyhteiskuntakehitystä kehittyvissä maissa voidaan tukea valtavirtaistamalla tieto- ja viestintäteknologia kehityspolitiikan yleisiin linjauksiin.

Suositukset:

1. Kansallisten tietoyhteiskuntastrategioiden ja kehitysyhteistyölinjausten pitäisi olla yhteneväisiä tietoyhteiskuntaan liittyvissä kehityspolitiikan kysymyksissä. Näistä linjauksista vastaavien valtion organisaatioiden välillä pitäisi olla nykyistä enemmän yhteistyötä.

2. Kehitysyhteistyössä tieto- ja viestintäteknologiaan ja informaatioyhteiskuntaan liittyvät keskeiset käsitteet on määriteltävä selkeästi.

3. Tietoyhteiskuntaan kehitysyhteistyössä liittyvien kysymysten asiantuntijoita on osoitettava nykyistä enemmän kehitysyhteistyöstä vastaaviin organisaatioihin.

4. Informaatioyhteiskuntaan liittyvien kehitysyhteistyöhankkeiden partnerimaiden valintaprosessista on tehtävä avoimempi ja perustellumpi.

5. Kehitysyhteistyössä on varmistuttava siitä, ettei partnerimaan sisäinen digitaalinen kuilu kasva tieto- ja viestintäteknologisen kehitysyhteistyön seurauksena.

6. Alkuperäistiedon, tiedon välityksen ja jaetun tiedon käsitteet on selkeästi määriteltävä kehityspolitiikassa. Tiedon välittämisestä on siirryttävä tietoyhteiskunnan rakentamiseen jaetun tiedon kautta.

7. Inklusiivisen tietoyhteiskunnan rakentaminen pitää nähdä koko yhteiskunnan tehtävänä eikä sitä pidä rajata koskemaan vain tiettyjä kohderyhmiä.

8. Tietoyhteiskuntaa koskevassa kehitysyhteistyössä teknologia ja infrastruktuuri on nähtävä yleisten kehitysyhteistyön tavoitteiden saavuttamisen välineinä, ei varsinaisina lopputuloksina.

9. Tietoyhteiskuntaan ja tieto- ja viestintäteknologiaan liittyvä kehityspolitiikka on liitettävä osaksi yleistä kehityspolitiikkaa.

1. Introduction

1.1. Structure of Report and Research Methodology

This work has been commissioned by the Ministry for Foreign Affairs for Finland. Although the Ministry has commissioned the research, the report has been carried out by an academic research team and published by the University of Lapland. The report does not represent an official opinion of the Ministry for Foreign Affairs for Finland and the authors take all responsibility for the contents of the report.

This report starts by outlining the commitments of the World Summit for Information Society (WSIS) and the Millennium Development Goals (MDGs). The MDGs and the WSIS process currently form the basis for development cooperation broadly speaking and more especially so for the Information and Communication Technologies for Development. However, this report will not elaborate in detail the WSIS commitments or the MDGs, but will concentrate on some aspects of the Information and Communication Technologies for Development which are related to these two international processes.

The report sets out the context for development cooperation in general for information and communication technologies for development (ICT4Ds) specifically in the selected focus areas for the study. The Development Policy context of the European Union, Finland, Ireland and Denmark are all briefly elaborated.

Three concepts which were seen essential for understanding Information and Communication Technologies for Development were selected for closer analysis; Digital Divide, Social Inclusion and Shared Knowledge. All of these three concepts have been studied and analysed based on the latest research and conceptual thinking.

Three countries were selected for closer case studies; Finland, Ireland and Denmark. In addition to the three case study countries, the policies of the European Union in relation to Information and Communication Technologies for Development were also studied. The research is qualitative research based mainly on official, public documents. Individuals having expertise in the area of the research were also interviewed to gain a deeper understanding and reflections from the practitioners of development cooperation from different countries and from different levels. Structured interview questions were used and interviews were all recorded for the purposes of the research.

Some conclusions are drawn based on the research findings. Due to the nature of national and international policy papers, these recommendations cannot be too detailed. However, some thoughts for the policy makers are presented for consideration.

1.2. WSIS Commitments and MDGs

International development work is largely based on international agreements. So, for example, the Millennium Development Goals (MDGs) are the basis for Finland's cooperation with developing countries. The Millennium Development Goals (United Nations 2000) are:

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria and other diseases
7. Ensure environmental sustainability
8. Develop a global partnership for development

The UN General Assembly in 2001 endorsed the holding of the World Summit on the Information Society (WSIS) in two phases (United Nations 2001). The first phase took place in Geneva from 10 to 12 December 2003 and the second phase took place in Tunis, from 16 to 18 November 2005. Both summits brought together politicians, researchers, NGOs and the business sector to tackle the challenges the Digital Divide is creating for the humankind.

The WSIS Commitments are an international commitment where the countries of the world reaffirmed their, "…desire and commitment to build a people-centred, inclusive and development-oriented Information Society (Tunis Commitment 2005)." Digital Divide is mentioned in 8 of the Tunis Commitments , Inclusive Information Society is mentioned in 4 of the Tunis Commitments and sharing knowledge and building knowledge economies are mentioned in two of the Commitments. The forty Commitments that were agreed upon in Tunis are very abstract overall policy goals but, nonetheless, goals which governments have agreed to try to reach with their own actions both nationally and internationally.

The Tunis Commitments are an important step towards a generally recognised and accepted policy making for developing worldwide information society. However, the countries that made the commitments are still very far from each other in terms of this development. For the large part countries own national policies and information society strategies still need to be written and implemented. For others, mainstreaming information and communication technologies for development cooperation will be a challenge.

2. Context for Development Cooperation

2.1. EU Context

The European Union consists of 25 states but has less than 500 million inhabitants. It is the world's largest and strongest trader. Collectively the EU is the biggest donor in the world to developing countries, providing over 50% of the worldwide official development assistance (European Commission 2004, 21). Since the 1970s EU has been providing support to the developing countries. It has a special relationship with African, the Caribbean and the Pacific countries. The European Union and its member countries pay out more than €44 billion a year (2005) in official aid to developing countries, of which about €6 billion is channelled through the EU institutions (European Commission 2006). To coordinate the Union's aid efforts, the European Commission has a special office called Europe Aid. Europe Aid Co-operation Office's mission is to implement the external aid instruments of the European Commission which are funded by the European Community budget and the European Development Fund.

2.2. Country context: Finland

Finland has some 5.3 million inhabitants. The country is sparsely populated and in average there are only 15.5 inhabitants per square kilometre. 62% of the population live in towns or urban areas, and 38% in rural areas. About one million people live in the Helsinki metropolitan area. Finland has a Sami (Lapp) population of 6,500. There are approximately 110 000 foreigners in Finland and some 60 languages are spoken somewhere in the country but Finland is still largely a mono-cultural country. Finland has two official languages: Finnish and Swedish. Finnish, a Finno-Ugric language, is spoken by 91.6% and Swedish by 5.5% of the population. Sami (Lappish) is the mother tongue of about 1,700 people. In terms of religion, 83% of the population are Lutheran and about 1% Orthodox. (Virtual Finland 2007.)

The economic development of Finland has been very rapid during the last 30 years. Finland was largely an agricultural country, relying heavily on forestry industry until the 1980s. After the 1980s the development has been phenomenal and Finland has become one of the richest and technologically advanced countries of the world.

The Ministry for Foreign Affairs of Finland has the overall coordinating responsibility for the Finnish development cooperation. The Ministry has the Department for Development Policy which is responsible for the following:

- Finland's international development policy and development cooperation policy
- overall planning and control of development cooperation, action plans and financial planning, budgetary groundwork, financial administration as well as preparation of statistics and reporting
- quality control, development and guidance related to development cooperation, including regulations and instructions

- development issues and development cooperation issues in the EU and the OECD in so far as they do not fall under the administration of any other Department, and research on development countries
- non-governmental organizations' (NGOs) development cooperation, support to international NGOs in respect of issues that do not fall under the administration of any other Department
- FINNFUND and concessional loans policy
- evaluation and internal inspection of development cooperation
- international agreements related to the responsibilities of the Department, legislative groundwork and other legal issues (Ministry for Foreing Affairs of Finland 2007.)

The above mentioned department is also responsible for the Information Society Development policies and has a special advisor for the ICT4D –sector.

2.3. Country context: Ireland

The population of Ireland increased by 318,000 persons between 2002 and 2006 to reach the highest recorded census level since 1861, according to Census 2006 (Census 2006). The preliminary total for the population enumerated on census night 23 April 2006 was 4,234,925 persons, compared with 3,917,203 in April 2002, representing an increase of 8.1 per cent in four years or 2 per cent per annum. Looked at from a ten-year perspective, Ireland's population increased at an annual average rate of 1.6 per cent between 1996 and 2006 – the largest population growth rate in the EU. Cyprus (+1.5%) and Luxembourg (+1.2%) were the only other countries to record population growth rates in excess of 1 per cent over this period.

Irish Aid is the Government of Ireland's programme of assistance to developing countries. Ireland has had an official development assistance programme since 1974. It has grown steadily over the years from modest beginnings to its current size (total ODA in 2006 will be over €730 million).

2.4. Country Context: Denmark

Denmark lies between 54° and 58° of latitude north and 8° and 15° of longitude east. In addition to Denmark itself, the kingdom also includes the Faroe Islands and Greenland. Denmark is a developed industrialised country. By international standards, the standard of living is high, and the differences between rich and poor are smaller than in many of the countries with which Denmark is traditionally compared.

Denmark is a member of the European Union. The proximity of Germany has traditionally orientated the country south in an economic and political sense, but close co-operation with Sweden, Norway, Finland and Iceland, with which Denmark enjoys a passport union, also ties Denmark to the North.

The population stands at c. 5.398 million, and the population density is c. 125 per square kilometre. Foreign immigrants and their descendants amount to c. 442,000, 230,000 of whom come from Europe; in addition there is a small German minority in southern Jutland. The

language is everywhere Danish, and the vast majority of the population has been baptised into the established protestant church. Denmark is therefore nationally and culturally very homogeneous.

Denmark has an open economy, and trade with the rest of the world is of great importance. Imports and exports of goods and services thus represent, respectively, c. 37% and 43% of the country's GDP (2003). Around 2/3 of foreign trade is with the other countries in the EU; the remainder is divided among a very large number of trading partners, of which Norway and the USA are the most important.

Danish foreign policy aims to increase international security and stability, ensure the greatest possible economic progress and prosperity and promote the respect for democracy and human rights. (Ministry of Foreign Affairs of Denmark 2007a)

Poverty reduction is the overriding objective of Danish development policy. Denmark will contribute to reducing poverty in the world through long-term and binding partnerships with developing countries. The object of these partnerships is to strengthen the ability of the developing countries to create sustainable development processes that will benefit the poor. Denmark will base its development co-operation on partners whose policies and activities create the necessary conditions for poverty reduction for the many rather than prosperity for a narrow élite. (Ministry of Foreign Affairs of Denmark 2007b)

2.5. Net official development assistance as a percentage of gross national income – Ireland, Finland and Denmark

Finland is among the rich countries of the world and has been a donor country in development cooperation for many decades. Interestingly, in 1991 Finland's official development assistance peaked to 0.80% of the Gross National Income (GNI). The percentage of the aid had been rising steadily from the early 1960s. This was the only time when Finland has reached the international goal of providing more than 0.70% of the GNI. After the peak year, the percentage went rapidly down to the level of 0.30% of the GNI (Ministry for Foreign Affairs of Finland, 2007b).

United States	0.17
Japan	0.19
Austria	0.23
Spain	0.24
Finland	**0.35**
United Kingdom	0.36
Ireland	**0.39**
France	0.41
Portugal	0.63
Sweden	0.78
Denmark	**0.85**
Norway	0.87
Average country effort	0.42

Net official development assistance as a percentage of gross national income, 2004 (OECD 2006).

Finland is planning to spend 670.8 million euros in 2006 for Development cooperation, which amounts to 0.42 % of the GNI. The goal is to reach the level of 0.7 % by the year 2010 and 0.44 % by the year 2007. Finland's long-term partner countries are Ethiopia, Kenya, Mozambique, Zambia, Tanzania, Nepal, Vietnam, and Nicaragua. Finland was not among the top 10 donors in any of the long-term partner countries and South-Africa was the fifth in the list recipients of gross Overseas Development Assistance (OECD 2007). Finland disperses its aid to a large number of recipients.

Ireland is giving direct funding to programmes and projects which meet basic needs in eight priority countries: Ethiopia, Lesotho, Mozambique, Tanzania, Timor Leste, Uganda, Vietnam and Zambia. In 2005 the total budget was €545 million and the plan for the 2006, is to spend €658 million. Ireland concentrates its aid efforts mainly to the long-term or priority countries. Contrary to Finland, Ireland features at the top 10 donor countries in four of its priority countries (OECD 2007).

Denmark has been donating more than 1630 Million Euros annually for overseas development assistance. This amounts to 0,81% of the GNI, being more than double of GNI percentage if compared to Finland and Ireland (OECD 2007). Reducing poverty in developing countries is central to Danish development cooperation priorities. The Danish Government organisation for Development cooperation is DANIDA. A number of crosscutting themes are built into DANIDA's development assistance: women's participation in development, the environment, promotion of democracy and observation of human rights. These crosscutting themes are integrated into DANIDA's development activities more generally.

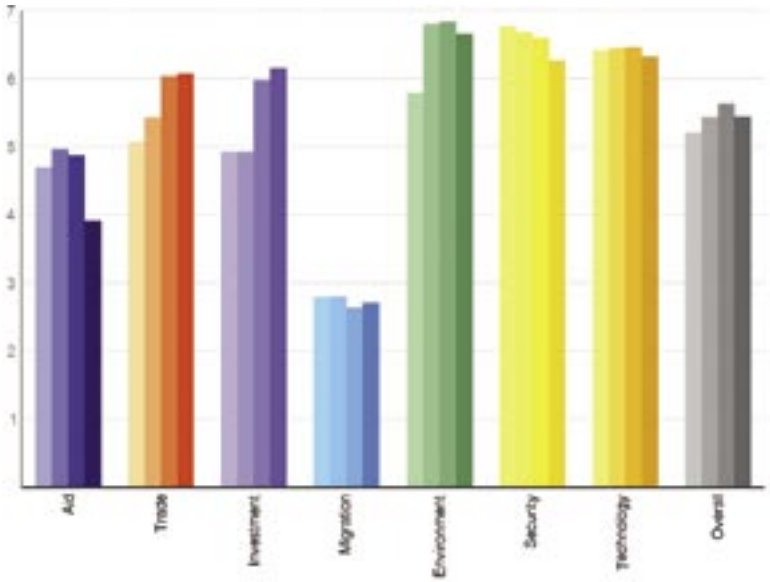
Countries in which DANIDA currently works are: Bangladesh, Benin, Bhutan, Bolivia, Burkina Faso, Egypt, Eritrea, Ghana, Guatemala, India, Kenya, Malawi, Mozambique, Nepal, Nicaragua, Niger, Tanzania, Uganda, Viet Nam, Zambia, and Zimbabwe. Again, when compared to Finland and Ireland, Denmark features at the top 10 donor countries in 15 out of its partner countries. Denmark seems to focus its aid well into the countries it works with.

2.6. Commitment to Development Index 2006 – CGD

Centre for Global Development (2007a) is an independent, not-for-profit think tank that works to reduce global poverty and inequality by encouraging policy change in the U.S. and other rich countries through rigorous research and active engagement with the policy community. CGD has produced the Commitment to Development Index since 2003. The Commitment to Development Index (CDI), rates 21 rich countries on how much they help poor countries build prosperity, good government, and security. Each rich country gets scores in seven policy areas, which are averaged for an overall score.

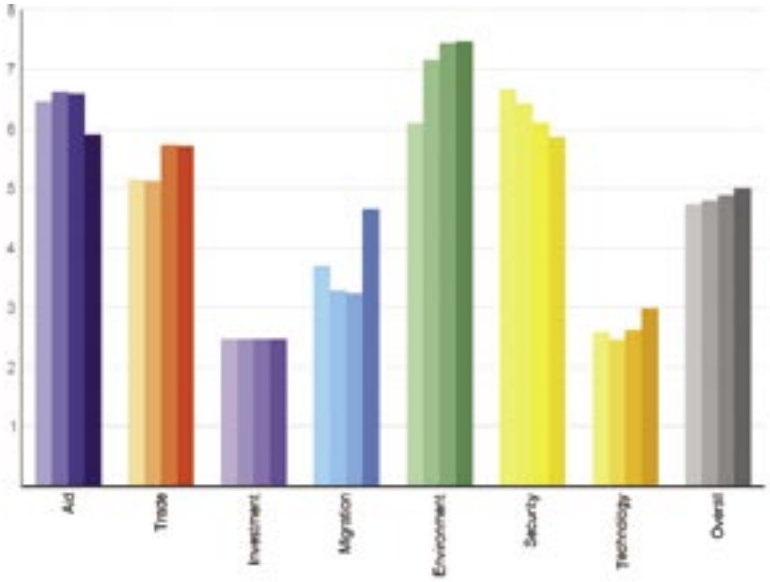
Finland's overall score in the last index for the year 2006 was 5.4 and there was a positive change since 2003 of +0.3. Finland ranks 7th overall in 2006. The Finnish government is a strong supporter of technological innovation and dissemination to the developing world and has also made significant contributions to international peacekeeping and forcible humanitarian interventions. But Finland's performance is affected by a below-average score in the aid

and migration components. Due to high barriers that restrict entry, the flow of immigrants from poor countries to Finland is one of the lowest in the CDI as a share of country population.



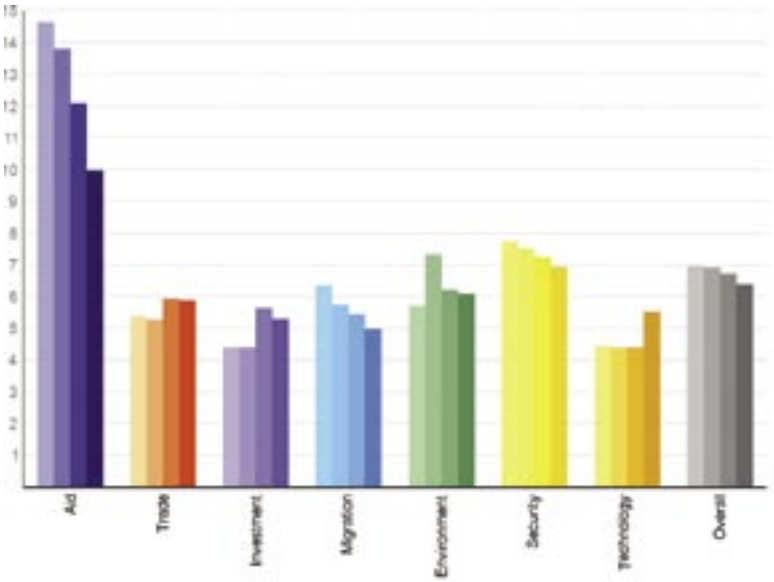
Finland Scores 2003-2006 (Centre for Global Development 2007b)

Ireland's overall score for 2006 was 5.0 and there was as positive change of +0.3 since 2003. (using 2006 methodology) Ireland ranks 13th overall in 2006. Ireland's strongest contributions to the development of poor countries come through its high quality foreign aid program and its lack of arms exports to undemocratic governments. But as one of only two countries without a national political risk insurance agency, Ireland ranks as the least supportive CDI country of investment in poor countries. It is also last in government support for technology creation and dissemination.



Ireland Score 2003-2006 (Centre for Global Development 2007b)

Denmark ranks 2nd overall in 2006. The Danish foreign aid program is the best in the world in terms of quantity, weighted for country size, as well as its quality. Denmark also contributes a large amount of personnel and finance to international peacekeeping and humanitarian interventions, encourages research and development, and has a strong environmental record from the perspective of poor countries. But Denmark's performance is affected by its barriers against agricultural imports from developing countries and its high fishing subsidies. (OECD 2006)



Denmark Scores 2003-2006 (Centre for Global Development 2007b)

2.7. Development Policy Goals and Strategies for ICT4D

2.7.1. European Union

European Union adopted the new Development Policy: 'The European Consensus' in December 2005. In the Consensus decision the EU has committed itself also to develop further the Policy Coherence for Development in several areas, including Information Society. "It is important that non-development policies assist developing countries' efforts in achieving the MDGs (European Parliament, 2006, § 35)." This agreement can be seen as an important cornerstone in the efforts to coordinate development aid efforts within the European Union. However, Information Society and ICT are barely mentioned in this high level document. In a way that is understandable, and certainly conventional, but it does not help in mainstreaming information and communication technologies to overall development policy. This sidelining of ICT in the Consensus agreement reflects the lack of appreciation of Information Society issues and reinforces the standpoint that ICTs are merely technology and that their role can be taken for granted. This unfortunately risks undermining the strategic work done in many member countries of the EU for Information Society and its role in the economic and societal development. The only section referring explicitly to information and communication technologies reads:

> The Community will also support an increased use of information and communication technologies to bridge the digital divide. It will also increase its support to development-related research. (European Parliament, 2006, § 79)

There are two separate issues to be noted at here. The first sentence in the above quotation does not say much, if anything at all. The second sentence refers to development-related research, which can include any scientific and/or thematic approach and is not necessarily connected with Information Society at all.
A similar claim is made in the EU 2005 Stocktaking document (EU Stocktaking, 2005):

> 11.1. Commitment
> The European Commission together with the Member States has been firmly supporting international cooperation in the field of ICTs. In line with the WSIS Declaration of Principles, the programmes and projects supported with third countries – in particular with the least developed countries and regions - aim at fighting poverty and empowering citizens by improving connectivity, access and use of ICTs.

As far as we can determine there seems to be very little coherence at present between the two different policy sectors. The Development Policy departments or, in the case of the EU, the Directorate General for Development, are organisationally separate and do not have visible connections with their non-development oriented departments.

Within the EU, the Directorate General for Development of the European Union has a mandate to enhance the development policies in all developing countries world-wide. DG Development provides policy guidance on development policy and oversees the programming of aid in the ACP countries (Africa, Caribbean and Pacific) and the Overseas Countries and Territories (OCT). The Cotonou Agreement (2000) provides the framework for a 20-year partnership for development aid to 77 ACP countries, funded mainly by the European Development Fund.

The Cotonou Agreement is one of the most precise policy documents thusfar by the European Union in relation to the role of information and communication technologies in development cooperation. Another matter altogether is whether the recommendations are taken into account at the national level in policy formation. The Cotonou Agreement Article 43 is an interesting mixture of typical political ambiguity and precise statements referring to “low cost wireless networks” and “renewable energy.”

> **1.** The Parties recognise the important role of information and communication technologies, as well as the active participation in the Information Society, as a prerequisite for the successful integration of the ACP countries into the world economy.
> **2.** They therefore reconfirm their respective commitments under existing multilateral agreements, in particular the protocol on Basic Telecommunications attached to the GATS, and invite those ACP countries, which are not yet members of these agreements, to accede to them.
> **3.** They furthermore agree to participate fully and actively in any future international negotiation, which might be conducted in this area.

> **4.** The Parties will therefore take measures that will enable inhabitants of ACP countries easy access to information and communication technologies, through, amongst other, the following measures:
> - the development and encouragement of the use of affordable renewable energy resources;
> - the development and deployment of more extensive low-cost wireless networks.
> **5.** The Parties also agree to step up cooperation between them in the area of information and communication technologies, and the Information Society. This cooperation shall, in particular, be directed towards greater complementarity and harmonisation of communication systems, at national, regional and international level and their adaptation to new technologies. (Cotonou Agreement 2000, Article 43.)

In the long run the most important section of the Cotonou Agreement for ICT4D is the final paragraph about cooperation harmonisation at all levels. The Cotonou Agreement says very little about mainstreaming ICTs into development cooperation. The only reference is that ICTs are seen as "…the pre-requisite for the successful integration…" of the developing countries. This could be interpreted as a statement for mainstreaming.

The European Union's Information Society Programme covers an enormous number of issues, one of them being international relations. In Factsheet 25 the Information Society programme states:

> European researchers and industrialists need access to ICT knowledge and skills around the world, while developing and emerging economies need EU research support if they are to develop and benefit from the information society. The EU's research framework programme is therefore supporting international research cooperation through shared research activities, the establishment of high-speed research networks interconnected with the rest of the world, and through networks of IT-skilled specialists in third countries – an activity which also substantially contributes towards closing the digital divide. (European Commission 2005a.)

The tone of this document is somewhat worrying, although one must keep in mind that it is a short factsheet, not an official policy document. EU needs are placed first and "therefore" the developing countries are required to catch up. There is a disconcerting smell of neo-colonialism about this. The same tone is reflected at the homepages of the Information Society Technologies programme:

> International cooperation in Information Society Technologies research aims at joining forces to identify and address major challenges where significant added value is expected to be gained from R&D cooperation with third countries. (IST 2007)

This is a clear neo-colonial presumption, "…where significant added value is expected to be gained…" and quite opposite to the overall policies of the European Union. If the European Union sector programmes choose to cooperate with developing countries only when there is a clear benefit to be expected for themselves, they are *de facto* acting against the official policies of the Union.

Other than the R&D programmes, the European Union also has other international programmes in the field of Information Society. Examples of these programmes are: EUMEDIS (The Euro-Mediterranean Information Society Initiative), NeDAP (The Northern eDimension Action Plan for the Baltic Sea States), and @LIS (The Alliance for the Information Society with Latin America). For example, @LIS aims to promote the information society and fight the Digital Divide throughout Latin America, working towards the overall development cooperation goals of the EU by promoting EU strategies and standards:

> [@LIS is]. . . a strategic project for improving economic development and citizens' participation in the global Information Society. @lis supports two types of dialogue. On one hand, it intends to stimulate the political and regulatory dialogue between the two regions and to favour the definition of regional e-strategies inspired by the eEurope initiative. On the other hand, it promotes the European system of standardisation, based on open and international standards. (EU Stocktaking, 2005.)

Africa has a special role in the development cooperation coordinated by the EU. In December 2005, the Heads of State and Government of the EU adopted a new Strategy for Africa, with the title "The EU and Africa: Towards a Strategic Partnership" (European Commission, 2005b). The WSIS process is being used as a reference for the framework for bridging the Digital Divide.

> This should include supporting the development of advanced and low-cost technologies for electronic communications and the development of regulatory frameworks to create a sound business environment for innovation, growth and social inclusion. (European Commission 2005b, 30)

It is worthwhile to point out that looking at the above objective backwards, social inclusion is supposed to be reached by developing technology and regulatory frameworks. Where are the people, or the local needs?

> By acting as early adopters of new technologies, national research and education networks can develop new and innovative methods to overcome inadequacies of the market, e.g. by developing cost effective communications solutions. The successful model used in North Africa to link these networks with each other and to GÉANT in Europe should be extended to the Sub-Saharan countries. The overall objective of these measures should be to bridge the digital divide at all levels – within countries, between countries and regions as well as between Africa and the rest of the world. (European Commission 2005b, 30-31)

Cost effectiveness is surely not the first issue for attention in the debate on extreme poverty eradication, nor indeed is the readiness for the market. Again, when discussing ICTs, the policy document fall into techno-economic jargon.

EU-Africa Partnership on Infrastructure (European Commission 2006b) calls for more investments on infrastructure. There is a shift in the language in the Infrastructure document towards contributing to the MDGs via the efforts of building infrastructure as compared to the overall EU-Africa Partnership document. This could be a hopeful indication of a process of mainstreaming ICTs into general development cooperation. It is very promising that

the technology is not seen only as infrastructure but infrastructure development strategies are made to enhance general development. Poverty reduction is the overall and the most important goal,". . . establishing and consolidating national and regional ICT strategies, which support poverty reduction strategies. . .(European Commission 2006b, 32)."

2.7.2. Finland

The eight MDG goals are the basis for the Finnish development cooperation. The Government Resolution for Development Policy (Ministry for Foreign Affairs of Finland, 2004), adopted in 2004, is definitive on this. The last one of the eight MDGs goals includes a subgoal which states: "In cooperation with the private sector, make the benefits of new technology especially information and communications technologies available to developing countries," This is the only section where ICT is directly mentioned in the MDGs. The development policy programme commits Finland to the UN's Millennium Declaration and its central development objective, the eradication of abject poverty. "The main goal of Finland's development policy is to contribute to the eradication of extreme poverty from the world (Ministry for Foreign Affairs of Finland 2004, 7)."

Other main principles include

- Broad national commitment and coherence in all policy areas
- Commitment to a rights-based approach.
- The principle of sustainable development
- The concept of comprehensive financing for development
- Partnerships for development
- Respect for the integrity and responsibility of the developing countries and their people.
- Long-term commitment and transparency

The cross-cutting themes in the implementation of the Finnish development policy are:

- promotion of the rights and the status of women and girls, and promotion of gender and social equality
- promotion of the rights of groups that are easily marginalised, particularly those of children, the disabled, indigenous peoples and ethnic minorities, and promotion of equal participation opportunities for them
- consideration of environmental issues

Finland is internationally recognised as one of the leading countries in developing the use of ICT in education, health-care and administration, *inter alia*. Finland supports Information Society development in her partner countries through development aid funds used, for example to provide sectoral support; by funding projects and through supporting NGOs.

Finland adopted the Development Policy Guidelines for ICT and the Information Society (Ministry for Foreign Affairs of Finland 2005, 7) in 2005. These guidelines were formed in accordance with international agreements which Finland has ratified.

Finnish ICT4D policy is based on the national Development Policy Guidelines (Ministry for Foreign Affairs of Finland 2004) and to MDGs and WSIS outcomes and commitments. It is very encouraging to read that:

> Information society development is therefore understood to be subordinate to these more general development goals, and information technology development is not sought as an end in itself (Ministry for Foreign Affairs of Finland 2005, 7).

The Finnish document is a rarity compared withthe international development cooperation policy field generally. It is a promising sign that the importance of ICTs in development co-operation has been recognised within the Ministry for Foreign Affairs of Finland. The Ministry has a dedicated expert as an adviser for the Information and Communication Technologies for Development and a counsellor in the same expertise area in the Finnish Embassy to South Africa.

The Finnish Development Policy Guidelines for ICT and the Information Society are based on the international agreements and recommendations. The intentions of the MDGs and the WSIS commitments have been merged and six goals have been formulated.

1. **Reduction of poverty making use of ICT.**
- Reduction of economic poverty by encouraging knowledge economy development enabled by information technology, and by supporting local entrepreneurial activities in the ICT sector.
- Elimination of social and cultural poverty and social exclusion by integrating ICT solutions into the sectors that are important for people's quality of life.

2. **Improvement of access to education and training for all through ICT, and upgrading of overall information society literacy.**
- Improvement of access to sources of information in developing countries by means of supporting information society development based on global partnerships.
- Access to basic education for all by encouraging the use of digital information resources in education, by strengthening remote support for teachers, and by developing distance education.
- Enhancement of the quality of teaching and learning by means of information technology.
- Improvement of the information society skills of individuals and organisations, especially regarding literacy and media literacy. Knowledge and education are the
- Fostering of people's linguistic identities and cultural diversity in the global information society.

3. **Development of an information Society that is inclusive and democratic and promotes human rights.**
- Promotion of equal access to information and opportunities of communication.
- Promotion of gender equality and improvement of the position of women and children through ICT.
- Promotion of the rights of groups of people who are easily marginalised in an information society.
- Strengthening of civil society by means of information society development.
- Development of the status of the media and the competence of media professionals as part of a democratic society.

4. Development of an information society based on law.

- Promotion of commitment to ethical values and human rights, and reinforcement of collective responsibility in information networks.
- More advanced information security and fuller confidence in the information society, both of which are also essential for sustainable information society development.
- Protection of individual privacy and fair treatment in the information society.

5. Prediction of environmental threats, prevention of serious illnesses and promotion of healthy lifestyles.

- Prevention and monitoring of threats arising from possible natural disasters, especially in the poorest and most densely populated regions, by means of developing information and warning systems and upgrading the coordination of humanitarian aid systems.
- Reduction of child mortality, improvement of the health of pregnant mothers and combat against HIV/AIDS, malaria and other dangerous diseases by developing remote diagnostics, health technology, and information network resources and related training and education.
- Maintenance of good health and prevention of illnesses by developing more advanced welfare technologies.

6. Creation of the preconditions for sustainable information society development.

- Respect for the authority and responsibility of developing countries for decisions related to the information society.
- Promotion of a working environment that encourages development and innovation and facilitates the integration of developing countries into the global economic system, making use of ICT.
- Encouragement of social ICT innovations.
- Promotion of regional and international cooperation through information networks.
- Promotion of coherence in global information society development.
- Consideration of aspects related to the sustainable development of the environment when technologies are applied and developed. (Ministry for Foreign Affairs of Finland 2005, 8-9.)

The third goal in the Finnish ICT4D Policy is narrowing the concept of inclusion to cover mostly only marginalised groups in the society. This type of marginalisation discourse in relation to inclusion can easily move the whole debate to the margin. If inclusion is understood only to refer to marginal groups, the whole concept becomes marginal. Conceptually, however, it should be vice-versa. Only if the majority sees these issues crucial for development, the change is possible. Discussion about 'the marginal' should be directed towards discussion about diversity and the acceptance of diversity in society in general.

The Development Policy Committee was appointed by the Government of Finland on 30th October 2003. By giving advice, the Development Policy Committee:

- steers Finnish development policy work
- evaluates the quality and effectiveness of development policy
- monitors levels of public funding for development aid.

The Government's Knowledge Society Strategy was launched in October 2006. There seems to be confusion whether to use "Information Society" or "Knowledge Society" when referring to the Programme and Strategy. Although the Programme and the Strategy are two different things, conceptual clarity would be needed for international purposes. The Strategy states:

> It is also important to promote awareness of the Finnish information society policy and good information society practises in Finland and to link ICT into Finland's development objectives (Information Society Programme 2006).

This does not really seem to meet the request by the Development Policy Committee, which has demanded that the State administration should have, "a comprehensive concept of the role that development of the information society plays in poverty reduction, of Finland's actions and of global utilisation of Finland's experiences (Ministry for Foreign Affairs of Finland 2006, 16)." The National Knowledge Society Strategy does not really connect with the Development Policy Guidelines for ICT and the Information Society. The Strategies have been prepared by different groupings, and there is very little correlation between the two documents.

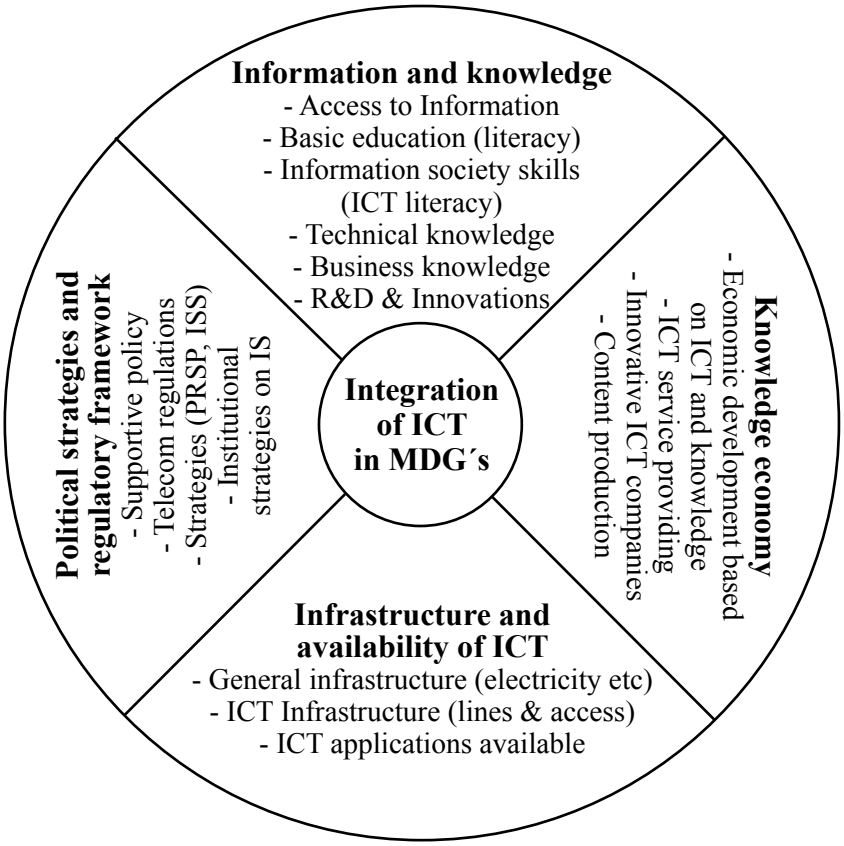
> Finland will implement the targets set in the UN World Summit on the Information Society in its information society policy. Global promotion of the information society will be closely linked to Finland's development cooperation policy (Information Society Programme 2006, 17).

This limited notion of development cooperation in the National Knowledge Society Strategy (Information Society Programme, 2006) was added to the Strategy only a short time before publishing the Strategy (Interviewed informant).

Mainstreaming information and communication technology in overall development policy planning and implementation should be given more importance than currently.

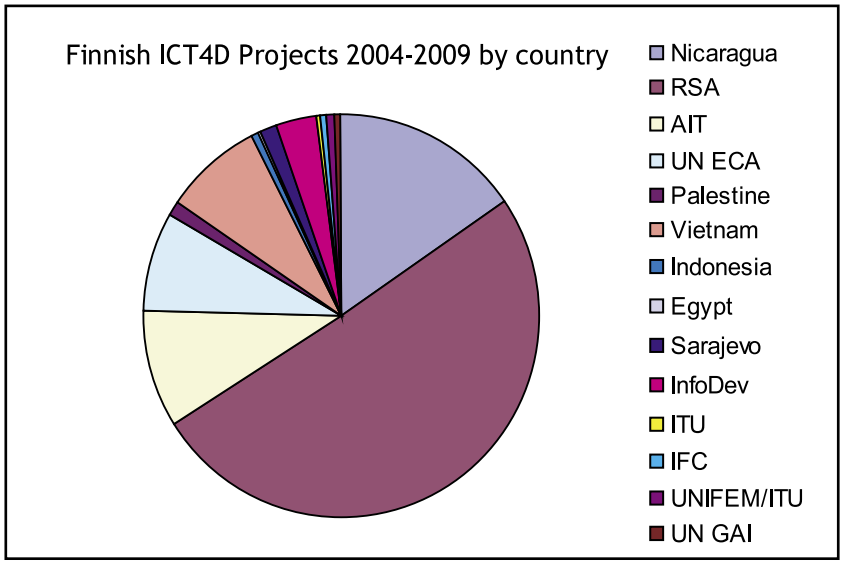
> From a poverty reduction perspective, seeking to reduce the digital divide by providing access to computers or the Internet is not the important issue. The real issue for ICT in a development context is how well the use of technologies supports poverty reduction directly. ICT can also play a valuable role as an enabler or facilitator of development opportunities more generally. (Curtain 2004, 29.)

The Finnish ICT4D Policy addresses mainstreaming in the section "Implementation of Information Society Goals (Ministry for Foreign Affairs of Finland 2005, 11)". Once again, in this policy paper, there is some ambiguity in the terminology and concepts used. As it currently stands, the text does not make a clear difference between mainstreaming through goals and mainstreaming through sectors of development cooperation. Mainstreaming through development policy goals should come first and only then the mainstreaming through sectors. This would ensure the role of ICTs for development cooperation as a major factor in any sector. The intention in the Policy is good but the outcome of the wording is still unclear and needs more conceptual clarity in the future. This ambiguity may partly be caused by the structure of the Policy Document. The mainstreaming idea is re-explained with somewhat different concepts in the following sub-chapter "Creating the framework for sustainable information society development (Ministry for Foreign Affairs of Finland 2005, 15)." The Framework for sustainable information society development is presented in the following figure. This figure is about mainstreaming and the issues explained through this figure are relating to the mainstreaming goal.



Framework for sustainable information society development (Ministry for Foreign Affairs of Finland 2005, 17).

The Finnish Government is funding Information Society related development cooperation both bilaterally and through multidonor organisations. Based on the list of funding allocations (Appendix 1.) half of the funding which has been used during the period has been allocated to South Africa. The Republic of South Africa has not been and is not a long term partner country for Finland in development cooperation. South Africa is the richest country in Africa, and when compared with the overall Finnish input to ICT4D, the decision to allocate half of the ICT4D funding to South Africa looks even more peculiar. What are the motives for concentrating so heavily in funding to South Africa? Is it because the country has already one of the most developed infrastructures in Africa? Is it because the aid-for-trade principle will return the development aid investment multiplied?



Finnish ICT4D Projects 2004-2009 by country.

One more concern about the Finnish policy statement should be raised. In the Introduction section the policy states:

> Finland has succeeded in the building of a competitive and inclusive information society. Even though development is always based on a country's own particular circumstances, and Finnish models cannot be directly "exported" elsewhere, - nevertheless Finland's own development to date provides very relevant material as a source of reference in sharing experiences and exchanging views with other countries. (Ministry for Foreign Affairs of Finland 2005, 5)

In the interviews we conducted, the issue of exporting models and the concept of sharing knowledge were discussed. We asked the question: 'How much of the development cooperation is about exporting Finnish (Finland in this case used as an example) models and expertise?' One of the interviewed persons answered:

> "Well, in reality we do that, because, obviously, what else can we do? I know the word 'exporting' sounds negative, but what else can you do?"

Another interviewed person discussed the situation where developing countries are when plans for development support are discussed with donor countries. According to this informant, the recipient countries often feel implicit pressure for doing things the way the particular donor country is either doing them or suggesting or hinting how to do things in a better way. For many cultures it would be very impolite to say against something that a guest (and in this case, a guest with an open cheque) has suggested.

2.7.3. Ireland

The Government's intention to publish a White Paper on Official Development Assistance (ODA) was announced by Minister of State Conor Lenihan T.D. shortly after his appoint-

ment in autumn 2004. The Minister saw the production of a White Paper as an opportunity to engage in a broad public consultation regarding the future direction of the Government's development cooperation programme.

The White Paper on Irish Aid was published on 18 September 2006 and sets out the Government's policy for the future direction of its assistance programme. It outlines coherent, effective and sustainable policy priorities informed by expert and public opinion. At the launch of the White Paper, the Taoiseach, Bertie Ahern T.D. stated that,

> The fate of others is more than a matter of concern to us; it reflects on and affects all of us. More than ever before, we in Ireland can live up to this responsibility because we now have the resources on a scale to make a real difference. And this is precisely what we, in Government, have pledged to do. We have set the target of spending 0.7% of our GNP on official aid. We will do this by 2012, well ahead of the EU target date of 2015. As outlined clearly in this first ever White Paper on Irish Aid, this will mean annual spending in the order of €1.5 billion by 2012. (Taoiseach, 2006.)

Africa will remain the principal geographic focus for Irish Aid. Ireland will increase the number of partner countries from eight to ten. Ireland has committed itself to develop regional programmes in Southern Africa and in West Africa, to address challenges which do not respect national borders, such as the spread of disease and food insecurity. African Union and other regional organisations in Africa are seen important partners in the future.

But crucially where the White Paper states that, "In our partner countries, we will maintain a mix of aid delivery methods: we will work at local, regional and national levels, taking into account the particular circumstances of each country", and specific reference to ICT is missing. Indeed reference to ICT only appears in the final chapter - Looking to the Future. Here it is placed in the context of future opportunities rather than any current agenda.

> Development cooperation is not static; to be effective, it must adapt and develop to respond to the changing world. Irish Aid too must adapt. It has evolved over the last 30 years to meet new development challenges, to keep up with changing best practice and to make the most of the opportunities presented by expanding budgets. (Irish White Paper on Aid 2006, 114.)

The section devoted to ICT states:

> There is increasing recognition of the potential of information and communications technology (ICT) to drive economic growth and reduce poverty. Ireland is an example of a country that has successfully employed ICT as a tool and an enabler in its development, and has become a knowledge-based economy.
>
> The risk for the Least Developed Countries is that they will be left behind in the global ICT revolution. Mobile communications are beginning to have a significant impact on how business is conducted in developing countries and will play a pivotal role in furthering their economic growth. However, African countries still lag far behind the developed world in the roll-out and application of ICT, which is crucial for improving the efficiency of business practices and also attracting

> foreign direct investment. Developing countries will find it increasingly difficult to compete on a global level without adequate ICT infrastructure in the future.
>
> In order for ICT to effectively support the reduction of poverty, inequality and exclusion in developing countries, it must also be used as a tool to aid practical and sustainable interventions which address the underlying causes of poverty. In the area of education, for example, Irish Aid supports the Dublin-based Global e-Schools and Communities Initiative (GeSCI), which seeks to use these technologies to improve the quality of education in the developing world. GeSCI works with partner countries at the local, national, and international levels to support create and implement strategies to harness ICT for education and community growth.
>
> The Irish experience of transformation into a knowledge-based economy has garnered the interest of governments in many developing countries. We will work in the coming years to make the policies and thinking behind this transformation more accessible for interested countries, making use of the expertise available across the public and private sectors in Ireland, as recommended in the eighth Millennium Development Goal. (Irish White Paper on Aid 2006, 114.)

Nevertheless, despite this relative low-key approach to ICT in the White Paper, there is a significant amount of work being done by Ireland in this area. The following sections of this report highlight some of these.

A special Task Force, including representatives from the private sector, NGOs, development specialists and academics, presented their Report on ICT and Development in December 2003 (Development Cooperation Ireland, 2006). According to the report, Irish Aid would focus on four key areas:

- Broad and equitable access,
- ICT policy, strategy and regulation,
- Good governance,
- Effective and efficient use of ICTs in Public Service provision.

2.7.4. Denmark

Danish development policy priorities and the economic framework for 2006-2010 have been presented in the policy document 'Globalisation – Progress through Partnership. Priorities of the Danish Government for Danish Development Assistance. 2006-2010' (DANIDA, 2005). It provides a comprehensive outline of how Danish development policy can support developing countries in their efforts to exploit the full potential of globalisation.

The paper is based on the Government's platform (regeringsgrundlag) from February 2005 and further develops the development policy stance that the Government has set out in the previous years with the policy papers, "A World of Difference" (Ministry of Foreign Affairs of Denmark, 2003) and "Security, Growth – Development" (Ministry of Foreign Affairs of Denmark, 2004).

In short, the Government will focus on the following areas:

- Targeted efforts to promote the MDGs – especially in Africa
- Increased focus on promoting economic growth – as a way out of poverty
- More targeted and focused development assistance – maximum value for money
- Security and development – a strong Danish voice
- Strengthened environmental efforts – a prerequisite for sustainable development
- Better climate – emphasis on global solutions
- Human rights and democracy – a free and fair world
- Regions of origin – coherence home and abroad

The Danish policy document sets out in some detail what are seen as the key issues and priorities for Danish Development assistance.

In the section on Globalisation 'Progress through Partnership' (DANIDA, 2005. §2.1 Key issues) the paper argues that globalisation requires action. Through its development policy, the Danish Government intends to strive to enable the poorest developing countries to successfully tackle the challenges of globalisation - in a freer and fairer world. "With its development policy priorities for 2006-2010, the Government aims to seek coherent solutions to the global challenges. The Government's goal is for the EU to be a dynamic force in the efforts to promote development and combat hardship and poverty in the world." Denmark, the paper argues, will positively influence the European cooperation to the benefit of the poorest countries.

At the UN Summit in New York in September 2005, the Danish Government pressed for increased global pledges of development aid. At the summit, the UN Millennium Development Goals were given a push forward, with particular focus on Africa. The Government is to conduct an analysis that will lead to the identification of a new programme country in Africa. Danish development assistance will be maintained at a level that does not fall below 0.8 per cent of GNP in the coming years. The paper insists that the Danish Government will work for a strengthened partnership regarding the MDGs that invokes a shared responsibility for their achievement among rich and poor countries alike. As a follow-up to Copenhagen Consensus, the Government intends to increase the development assistance to the fight against HIV/AIDS. The Government will also work to promote greater coherence between the MDGs and reproductive health as well as between the MDG on environmental sustainability and the other MDGs. (DANIDA, 2005)

The policy paper claims that the Danish Government will intensify its focus on promoting economic growth in developing countries. "Without economic growth, there will be no way out of poverty." The Government intends to implement a wide range of initiatives designed to strengthen the business climate in the Danish programme countries, and to increase the benefits gained by developing countries from globalisation.

The paper states that Denmark will continue its efforts to obtain maximum value for money in its development assistance – "to the benefit of poor people in the developing countries". The bilateral Danish development assistance will be further targeted. The initiatives carried out in the various programme countries will be focused in fewer areas, which will intensify the need for cooperation and coordination with other donors. The Government will place greater emphasis on a quid pro quo principle, where mutually committing partnerships are established between recipient countries and the entire donor group. The Danish contributions to multilateral aid organisations will be adjusted in light of the critical review of the multilateral development assistance that the Government has conducted.

The paper has further sections on Security and Development – "a strong Danish voice"; Strengthened environmental efforts – "a prerequisite for sustainable development" Climate – "a global challenge", and Human rights and democracy – "a free and fair world"

Reducing poverty in developing countries is central to Danish development cooperation priorities. "A number of crosscutting themes are built into DANIDA's development assistance: women's participation in development, the environment, promotion of democracy and observation of human rights. These crosscutting themes are integrated into DANIDA's development activities more generally." (DANIDA 2007)

Countries in which DANIDA currently works are: Bangladesh, Benin, Bhutan, Bolivia, Burkina Faso, Egypt, Eritrea, Ghana, Guatemala, India, Kenya, Malawi, Mozambique, Nepal, Nicaragua, Niger, Tanzania, Uganda, Viet Nam, Zambia, and Zimbabwe.

One particular feature of Danish development activities and their effective presentation is the way in which the DANIDA website (DANIDA, 2001) highlights good ICT practices in development activities. "The identified Good ICT Practice cases contribute to the Millennium Development Goals in various ways, which are described below in order to demonstrate the poverty reduction angle of the ICT tools in Health, Education, Agriculture and Business sectors."

As demonstrated in the Good ICT Practice cases on health in the above web site, "ICTs can provide useful tools for health care workers and can facilitate the distribution of health information to the general public. ICT can be of assistance for the health sector for instance by providing valuable information to health workers through the use of PDAs (UCH/Uganda), by treating mental health cases related to post-war traumas (ACISAM/El Salvador), or through the establishment of youth radio listening groups (Lifeline/Tanzania)".

DANIDA notes that ICT tools applied in the health sector can assist in reaching the following particular MDGs:

Goal 3. Promote Gender Equality and Empower Women
"Addressing health, ICT can give women important information, for instance on women's rights to family planning, nutrition, and safe pregnancy." Also, "ICTs are effective tools in changing prejudice and biased concepts on gender role models. Women, who actively partic-

ipate in using information and communication technology, will face information from a variety of sources and thus be encouraged to change their status, if desired." The site links each aspect of provision to case studies and examples.

This goal is explicitly referred to and demonstrated in action in a statement by the Minister for Development Cooperation at the presentation of the World Bank's World Development Report 2007:

> A key issue is young people's access to reproductive services and information. The largest generation of young people ever in history is now entering their sexual and reproductive life. Their access to health services - including condoms and education - is essential if we want to reduce poverty. (World Bank's World Development Report 2007)

Goal 4. Reduce Child Mortality

Examples are given, such as the, "Health Foundation of Ghana's project "Stimulating Local Digital Health Content" (Healthvideo/Ghana) . . . directly addressing child mortality. As demonstrated by the production of health care information on breastfeeding, ICTs can be valuable tools to create awareness among mothers on child raising and breastfeeding issues".

Goal 5. Improve Maternal Health

As well as giving examples, DANIDA notes:

> The World Bank Group's World Development Report 2002 cites empirical studies which found that a woman's access to the media is associated with a better health prognosis. ICT can play a critical role in reducing the incidence of maternal death numbers by facilitating access to information and to health care services.

Goal 6. Combat HIV/AIDS, Malaria and Other Diseases

> ICT tools have proven to be effective in creating dialogue, sharing knowledge, gathering reliable information, as well as promoting research. Knowledge sharing initiatives like PERI/Ghana and Healthvideo/Ghana are examples of ICT projects adding to these efforts. Additionally, the project of Equal Access – Digital satellite radio in Nepal, raises awareness on reproductive health, women's empowerment and HIV/AIDS in remote and isolated areas of Nepal, utilising a combination of satellite technology, radio, multimedia and solar panels, through which knowledge about HIV/AIDS has been increased in the communities.

Goal. 8. Develop a Global Partnership for Development

> ICT can be used to support good governance, accountability, and transparency for the advantage of the health sector. All the listed health sector projects in the Good ICT Practices contribute in their own right to developing a global partnership for development. Donor coordination through sector wide approaches, basket funding and collaboration with other donors in the health sector on use of ICT to reach the MDGs will add to these efforts.

DANIDA notes that ICT tools applied in the business sector can assist in reaching the following particular MDGs in particular through enhanced access to e-governance, which improves public services and promotes accountability and transparency. Use of ICTs can also be utilized for establishing efficient public services and a better climate for trade, resulting in economic growth. Finally, the World Bank report "ICT and the MDGs" underlines that "making available the benefits of ICT is itself an MDG target". In order to enjoy the advantages of ICT, access to basic telecommunication is a key concern, and one tool to obtain access is through public-private partnerships, which can also be facilitated trough ICT.

Goal 1. (Target One) Halve, between 1990 and 2015 the proportion of people whose income is less than one dollar a day.

> Income generating activities can be supported through ICTs in various ways, for instance as demonstrated in the Danida's project on Sustainable Buffer Zone Management in Nicaragua (Buffer/Nicaragua), where farmers are trained (among other ways through radio broadcasts) on how the farmers can increase their incomes by cultivating their land more efficiently, and at the same time protect the environment in general, and the nearby nature reserve in particular.

Goal 3. Promote Gender Equality and Empower Women

DANIDA argues that as estimates show that men dominate in the use and profit from the new technologies, projects supporting inclusion of women should be encouraged. It notes that:

> In development projects involving ICT it is essential to make sure that women are included and/or gender issues considered. ICT can provide new opportunities for women, as for instance in cultures, where women have limited possibilities for social interaction. ICTs can also help female entrepreneurs, who often have limited resources and experiences, by reducing transaction costs, increasing market coverage, and even expanding their businesses across borders.

Goal 8. (Target 12) Develop further an open, rule-based, non-discriminatory trading and financial system

> The Administration of Concessions in Nicaragua (Concessions/Nicaragua) is a demonstration of how ICT can be used for assisting shrimp farmers and the Nicaraguan government in the construction of shrimp ponds, considering legislative and environmental concerns. The shrimp farmers can easier and more quickly obtain deeds to their ponds, and the government benefits from receiving revenues from the shrimp owners. Additionally, the government saves time by keeping updated records electronically, and by using satellite registration of the ponds.

Goal 8. (Target 16) In co-operation with developing countries, develop and implement strategies for decent and productive work for youth

> As shown in the cases of DRIK/Bangladesh and YPSA/Bangladesh, creative projects initiated by civil society in developing countries can provide inspiration and concrete demonstrations on how to educate and train youth for professional jobs. In the case of YPSA, youth are taught in a variety of computer skills, but perhaps more importantly in group work and planning of activities. The DRIK

> case shows how children from poor families can be trained as photographers and thus become breadwinners for their parents. At the same time, the young female participators in DRIK's educational projects demonstrate new role models in their countries by working in professions previously dominated by men.

Goal 8. (Target 18) In co-operation with the private sector, make available the benefits of new technologies, especially information and communications
Here DANIDA observes that:

> All the presented Good ICT Practices cases related to the private sector help in one way or another to make the advantages of the new technologies available to poor people. Danida's business sector program adds to these endeavours by supporting the ICT sector in general, as well as advancing ICT in the business sector activities. In order to reach the MDGs, it should especially be considered how to use ICT to promote SMEs in rural areas. By including the rural based SMEs, more MDGs will be addressed, as the rural poor constitute the most vulnerable population group. Of one billion people living in extreme poverty, 75% live in rural areas.

As far as using ICT as a tool to reach the MDGs in Education DANIDA asserts that ICTs can help to reach the Millennium Development Goals in education by providing various channels to bring educational options to those, who would not else be offered an education.

> Also, ICTs can enhance the access to information and educational materials in those schools, which are short of educational equipment. Video conferencing and radio broadcasts provide new tools for distance education, provided that access to the ICT tool in question is possible. For the teachers, ICTs can provide means for networking, training and continued learning. Before ICT is introduced in the schools, training in the use of the applications should be provided. Girls and women in particular need special training in order to fully benefit from the advantages of the new technologies, so this should be addressed in curriculum and education plans.

Goal 2. Achieve universal primary education
DANIDA cites various examples here, including:

> The SchoolNet project in Uganda (Schoolnet/Uganda) is a national network of professional educators and schools, established in close cooperation with the Ministry of Education in Uganda with the objective to enhance computer literacy nationwide. In 58 secondary schools, teachers and students have been supplied with computers, software and internet-connections. To supplement and enhance learning materials, teachers have beforehand been trained in the use of ICT. Before connecting the schools to the Internet, SchoolNet analyses the respective school's budget and location in order to decide which technology should be used for linking to the Internet, and in many cases wireless technology has proven to be effective.

In connection with this the statement by the Minister for Development Cooperation at the presentation of the World Bank's World Development Report 2007 (World Bank's World Development Report 2007) makes the following clarifications:

> Our support to education is based on two pillars: The Millennium Development Goals and the Education for All-process. Denmark is strongly committed

> to making an extra effort to secure quality education for all. . . In my mind, there is no doubt that the path out of poverty for young people starts in the classroom. Especially in Africa, too many young people are still not able to attend even primary school. Therefore, Denmark continues to keep a focus on basic education. But we need a holistic approach. Within the framework of the six Education For All goals, Denmark is now increasingly providing assistance for educational development on a much broader basis. This is very much in line with the recommendations of this year's World Development Report

DANIDA further argues for the use of ICT as a tool to reach the MDGs in Agriculture - that new technologies can be useful for farmers all over the world. ICTs can be a gateway to a variety of services and networks, including market access, information on market prices, e-commerce opportunities, e-government policies, appropriate technologies, knowledge on cultivation methods, natural resource management, biodiversity, ecological protection, fertiliser technology, etc.

Goal 1. (Target 2) Halve, between 1990 and 2015 the proportion of people who suffer from hunger

For example:

> Farmers who have access to information and market opportunities are better empowered to make the right choices and to secure that their families do not starve. ICTs can sustain the fight against hunger by giving access to tools that empower the farmers. This can be seen in the Good ICT Practice examples, for instance TARAhaat's Web Portal for Rural India, which offers database information and education. The farmers have increased their profit by seeking information in the web-portal about prevailing wholesale prices of their produce, and this has made it possible to eliminate the local middlemen.

Goal 7. Ensure Environmental Sustainability

> ICT can sustain the environment on several levels, including disseminating of environmental information, monitoring and storing environmental data, and reducing risks of floods, tsunamis, and natural catastrophes.
> Examples of use of ICT on behalf of the MDGs and environment are the Sustainable Development Network (SDN/Bangladesh), which supports the establishment of a database and network on environmental issues, and the Bangladesh NGOs Network for Radio and Communication, which among other issues works on disaster warning.

Goal 7. (Target 9) Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources

> The project on Improving Health Estate Management in Ghana (HEM/Ghana) has by use of ICT incorporated a database administration, which will improve mechanisms for supervision and maintenance of existing hospital buildings and infrastructure such as drainage systems, water, and electricity. The improved maintenance will have a beneficial influence on the environment as well as the sustainability of the project.

3. Touching the Digital Divide, Social Inclusion and Shared Knowledge

3.1. Digital Divide

The IT revolution made some glorious promises to the worlds poor: instant access to information and far-flung markets, political empowerment, greater growth, even the possibility that countries could leapfrog entire stages of development. But when none of that happened in a hurry, the excitement gave way to concern that rather than closing the wealth gap, IT was exacerbating it.

Yet for all the international debate and millions of words written about the digital divide, very little systematic empirical research or studies over time have been done to confirm claims and counterclaims and to guide policymakers on how this technology actually affects the development of low-income countries.

> With recognition of the positive potential of the revolution in information and communication technologies (ICTs) has come the realization that the vast majority of the world remains excluded from these possibilities. As access to information and knowledge is regarded as a prerequisite to achieving the Millennium Development Goals (MDGs) set by the United Nations, bridging the digital divide is essential to closing the development gap. (Martin, 2005.)

The Digital Divide has been described in by the United Nations as a factor of exclusion from global exchange processes, restricting the development of intellectual capital, slowing down economic growth and dangerously increasing the lack of understanding between cultures and civilisations (UNDSF 2005). It exists both within and between countries and regions and as a result remedial Information Society programs have been launched at both European and at a global level.

Various definitions for Digital Divide exist, but they can be grouped together to three clusters, following the typology presented by Warschauer (2003):

- a division between those in favour of the extensive use of digital technology (esp. computers) and those against it;
- (now the usual sense) the gulf between those who have ready access to current digital technology (esp. computers and the Internet) and those who do not;
- (also) the perceived social or educational inequality resulting from this.

Digital Divide used in these latter two senses is at the heart of many countries's approach to ICT4D strategies, where the assumption is that the 'divide' between the "haves" and the "have-nots" can be reduced or eliminated by the exploitation of ICT. So, for example, Danida asserts that, *"Denmark will work to increase the opportunities and capacity of the developing countries to exploit new ICT in order to limit and eventually* eliminate the digital divide". *(Danida, 2001)*

But against this there are those who argue that the development of the Information Society will actually make things worse, not better. "Moreover, for all those who proclaim the Information Society as providing the answer to social inequality, poverty and unemployment, there are others who would regard it as likely to widen the gap between information *haves* and *have-nots* and to maintain existing socio-economic disparities (Sarker 2001)."

So it is clear that 'Digital Divide' is not just an issue between the "haves" and "have nots" but constitutes a complex social network where culture, language, education, and age all have a meaning in forming communities. The inherent ambiguity of the term has often led to the following misconceptions:

a) Digital Divide is dividing two clearly separate groups of people;
b) Digital Divide is difficult to bridge, and
c) The inequalities are absolute and static. (van Dijk 2006, 222)

Plugging poor countries into the Internet will not help unless these social factors are dealt with (Martin 2005). The WSIS Tunis Commitment reaffirms the, "…desire to build a people-centred, inclusive and development-oriented Information Society (ITU 2005)."

> The Community will also support an increased use of information and communication technologies to bridge the digital divide. It will also increase its support to development-related research (European Parliament, 2006, §79).

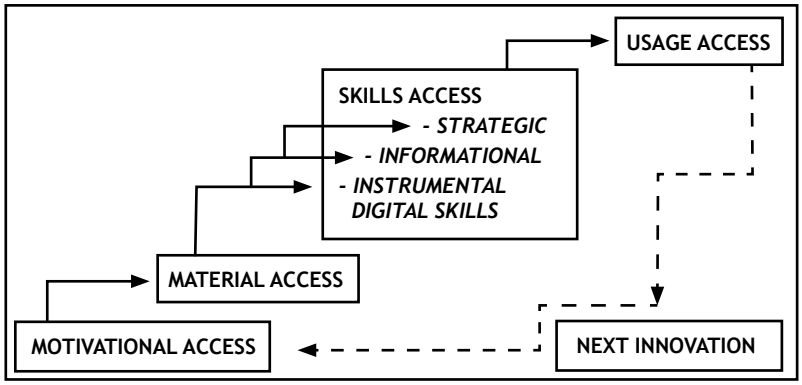
One of key factors influencing the Digital Divide is basic access to the Internet. This is not simply a matter of penetration – although this is a non-negligible issue. There are some one billion worldwide users of the Internet out of a worldwide population of some six billion. Certainly it is the case that for developing countries, issues such as better access to the Internet and empowering people with information and knowledge is a priority and a critical objective of an inclusive Information Society, but access also arises (or fails to) in terms of the language of the Internet. The overwhelming use of English – particularly evident in the DNS (Domain Name System) needs to be addressed in overcoming the Digital Divide. Many peoples in developing countries cannot read or write in English and others use languages that do not use the Latin alphabet. Similarly, some indigenous languages are not written languages, so for indigenous people to gain access to the Internet, solutions are going to be needed both in terms of regulatory environment and also in software and hardware development.

Core elements affecting the Digital Divide are management of the DNS and various ways to turn it into a system that allows multilingual use; issues surrounding Internationalised Domain Names (IDN), and recognition that as technical solutions for a more localized multilingualism are found, global interoperability will become more complex and difficult to guarantee. Lack of access to the Internet in indigenous languages is detrimental to many potential and existing users and inevitably these detrimental effects are typically most commonly felt in developing countries.

Van Dijk (2006) raises the question as to the type of inequalities that exist in the information and network society. He wonders whether new types of inequality exist and if so, what these

types are. Access has probably been the most used and measured concept of Digital Divide. Van Dijk (2006) has divided access into motivational, material, skills and usage access (see figure below). The largest part of contemporary research and attention has been devoted to material access. It is easily measurable but has a danger of technological determinism. Material access includes divisions by income, education, age, gender and ethnicity. According to van Dijk it is very difficult to do any prognosis of how the material access divide will develop. The gap within the developing countries in terms of physical access to information and communication technology seems to be widening and indeed it may well be that development cooperation is enhancing this type of increase. Digital Divide within developing countries has been recognised as being potentially problematic by donor countries, as one of the informant said in an interview with ourselves:

> At the moment I could agree with you that digital divide or knowledge divide is getting bigger and bigger all the time because we don't have coherent policies in other sectors. --- I'm afraid that the digital divide or the knowledge divide will increase in coming years (Interviewed informant).



Model of successive kinds of access to digital technologies (van Dijk, 2006).

However, material access is preceded by motivational access. By motivational access van Dijk (2006) refers to those people who for one reason or other do not use or do not want to use possible access to digital media (usually the Internet). Interestingly, even van Dijk does fall into making the assumption that this is a problem. Why is it that not having any motivation, or need to use digital resources or communication should be a problem for us or forsociety? Surely this is no more than a typical projection of the Grand Narrative of Enlightenment and the Industrial Revolution of the Modern, where development is very much technologically determined and assumed to have a positive nature *per se*. This can be seen very clearly in the Irish statement on ICT in its White Paper on Aid (Irish White Paper on Aid, 2006) where the somewhat unthinking claim is made that whatever works for Ireland will work elsewhere: "There is increasing recognition of the potential of information and communications technology (ICT) to drive economic growth and reduce poverty." Ireland is an example of a country that has successfully employed ICT as a tool and an enabler in its development, and has become a knowledge-based economy. The risk for the Least Developed Countries is that they will be left behind in the global ICT revolution.

'Skills access' (van Dijk 2006) refers to instrumental, strategic or informational skills. There is a strong belief behind formal training and education for building both capacity and skills. However, some research suggests that formal training has poor results and more effective learning frequently happens by trial and error and particularly in peer-to-peer situations. Social context and networking are essential for Internet users for learning digital skills. These networks cannot be created and imported from outside, which, evidence suggests, does sometimes be a model still much in use in development cooperation. Linus Torvalds has referred to this phenomenon (when discussing hacker culture) by defining Linus's law where the three elements are survival, social life and entertainment (Himanen 2001). If survival has been taken care of, we need social life and entertainment to learn and create something new. In today's virtual world (developed, rich world) traditional values for work and survival are not respected in the same sense as before.
'Usage access' is usually measured in usage time, 'usage ways' in broadband usage, Internet penetration (ITU 2006; van Dijk 2006). Typical sources for this kind of information are different usage ratings and measurement (e.g., Nielsen/NetRatings) companies and/or organisations selling their information (or providing it for free). These ratings are often only indicative and may contain some rough figures and imply trends but more thorough and scientifically sound studies are required if precise information regarding actual usage and different forms of usage are wanted.

The concept of Digital Divide is usually used to describe the division between rich and poor, North and South, developed and developing countries. However, this type of definition catches only part of the picture. The Digital Divide within both rich and poor countries is becoming more and more a challenge. Governments have launched Information Society Programmes to address this issue nationally (see, for example, Tietoyhteiskuntaohjelma, 2006). The Finnish Information Society Programme does refer to the WSIS process, but there is no clear connection between the Development Policy Guidelines and the National Programme. This may illustrate the lack of coherence within governmental structures, where different ministries are safeguarding only their own specifically targeted sectors.

Poverty eradication is the most important goal for development cooperation. "Firm progress must be made towards strengthening the opportunities of poor countries to exploit the benefits offered by globalisation – through security and stability, through environmental protection, through human rights and good governance, and through economic growth (Danida, 2005)."

> In order for ICT to effectively support the reduction of poverty, inequality and exclusion in developing countries, it must also be used as a tool to aid practical and sustainable interventions which address the underlying causes of poverty. In the area of education, for example, Irish Aid supports the Dublin-based Global e-Schools and Communities Initiative (GeSCI), which seeks to use these technologies to improve the quality of education in the developing world. GeSCI works with partner countries at the local, national, and international levels to support, create and implement strategies to harness ICT for education and community growth. (Irish White Paper on Aid, 2006.)

Technology transfer programmes should be sustainable and the usage of applications developed elsewhere should be minimal (Martin 2005). Martin uses the term *appropriateness* to discuss whether attention has been paid to the local dimension in development projects. 'Locality' means cultural sensitivity, understanding local political and social structures and sustainable use of local languages. This is not always borne in mind by the provider countries:

> The Irish experience of transformation into a knowledge-based economy has garnered the interest of governments in many developing countries. We will work in the coming years to make the policies and thinking behind this transformation more accessible for interested countries, making use of the expertise available across the public and private sectors in Ireland . . .(Irish White Paper on Aid, 2006)."

Some awareness of the importance of locality can be identified in some policy documents – such as the Danish Guidelines for Project Management: "In line with commitments of the Paris Declaration to support ownership, alignment, harmonisation and managing for results, Danish development co-operation to the extent possible should be aligned with partner priorities, structures, procedures, and budget processes and preferably be provided in the form of joint financial arrangement with other donors (Danida, 2006)."

And the key significance of locality appears stronger still in the section, 'Ownership, participation and collaboration in Good ICT Practice – Lessons Learned in Education Sector' (Danida, 2001):

> All the cases forming basis for lessons learned in the education sector point to that consultation with target-groups and beneficiaries is crucial for the introduction of ICT in educational, training and awareness rising projects. This, not only to create relevance and interest of the target-groups in educational material and information – and thereby learning potential – but also to generate long-term participation, ownership, sustainability, and in order to facilitate change more quickly.

Measuring digital divide may appear to be easy. However, the question of digital divide is not just about technological access, which is the most easily measurable part of the divide. Access to technology, penetration percentages, affordability, fixed or mobile telephone lines etc., are used to illustrate the divide or the gap. According to ITU (2006) the Digital Divide is shrinking but major disparities remain. One could also argue that the method used in the World Telecommunication/ICT Development Report 2006 in defining the Digital Divide is questionable. The numbers of telephone subscriber are growing both in the developed and developing countries but the gap seems to stay the same or even grow. These kinds of statistics are helpful but they can also blind the audience from other factors affecting to Digital Divide. Educational and social aspects should have a central role in digital divide narratives and initiatives both in the developed and developing countries (Martin 2005).

Mobile technology and especially mobile phones are often seen having an important social function which motivates even poor people to spend large portions of their income on mobile communication. And of course the ability to communicate with one's relatives and friends without travelling saves time and money especially in remote areas (ITU 2006, 21-22).

The disparities are reducing but are still very evident. Non-OECD countries now account for over 50% of fixed telephone lines and constitute 46% of the world's mobile subscribers. However, Internet subscribers in non-OECD countries were only one-third of all subscribers in 2003, and in broadband the disparity was worse, with only 17% of subscribers coming from non-OECD countries (OECD 2004).

This said, a recent article in the Economist makes sober reading. It argued that merely plugging poor countries into the Internet was unlikely to help because the Digital Divide is a symptom of more important divides of income, development and literacy (Economist 2005). In order to derive meaningful benefit from ICTs, users need money to buy or access the technologies, the usage skills to employ them and the literacy skills to read the content. However, realistically the poor will not own ICTs or be able to use them in hands-on fashion to any significant degree in the foreseeable future (Heeks, 1999). Put differently, a computer is not much use if one has neither food nor electricity and cannot read (Economist 2005). As another source observed, the life of vulnerable populations cannot improve dramatically if suddenly they have a computer. But if their doctor is able to provide better health care thanks to a computer, then that is different (Noyes 2005).

It is very important to note that presumptions of information being either a primary or a positional good with a notion of information as a source of skills, dominate the discussions about the Information Society and research into Digital Divide(van Dijk 2006). We fully support Van Dijk's (2006) call for more interdisciplinary research, more qualitative research, and a more dynamic approach to Digital Divide research. Much more research will be needed to define and elaborate the concepts used in Digital Divide research currently.

3.2. Social Inclusion

An inclusive Information Society should be built via social inclusion. Social inclusion will not happen unless the majority of a community (or a society) accepts a shared understanding of the prerequisites for it. Properly understood, development policies and their implementation can help individuals, families, and communities to participate in and control their own lives in the key areas of economic issues, employment/unemployment, health care, education, and housing. Leisure time activities, cultural activities and political activities are also important elements of social inclusion in the Information Society. Sometimes these non-formal activities are more important in supporting personal growth and innovation than the attempts by societies to implement formal policies (Buckingham & Domaille 2003). However, we must remember that social exclusion can be a long-standing problem and if it has existed before the large scale usage of information and communication technologies, it will probably still continue to exist even after ICTs have become more widespread (Hull 2003). It is a truism that technology cannot solve societal problems on its own.

Finland has been used as a showcase for responsible development in terms of social responsibility and the welfare state. Manuel Castells and Pekka Himanen (2002) have analysed the development of the Finnish Information Society. They see some truth in the claimed pre-emi-

nence of Finland in this area, but also point out number of challenges that remain for Finland to overcome:

- The divide between the old and new economy
- Information society vs. Government of the industrial age
- New inequalities
- Lack of business-oriented young people
- Protestant ethic vs. hacker ethic
- The vulnerability of the Finnish economy
- National identity vs. multiculturalism

The WSIS Declaration of Principles contains a commitment to transform the "digital divide into a digital opportunity for all". Social Inclusion is a key component of this transformation. The WSIS Plan of Action states that, "Everyone should have the necessary skills to benefit fully from the Information Society." Just under half of the activities that were submitted are relevant to capacity-building. The WSIS Plan of Action recognises that cultural and linguistic diversity, while stimulating respect for cultural identity, traditions and religions, is essential to the development of an Information Society based on dialogue among cultures and regional and international cooperation. (WSIS Report, 2005.)

'Information Society' and 'Knowledge Society' have been criticised as empty concepts since most of the economics are still being defined in terms of manufacturing goods (Grantham and Tsekouras 2004). If it is difficult for an individual to see the connection with knowledge-based work and personal reward even in the developed countries, how much more difficult it is going to be for the poor in the developing countries?

Developing social structures; community involvement, and organisational learning are seen as being essential in designing and implementing successful and meaningful policies and practises for the inclusive Information Society (Parkinson 2005). However, the concepts are fairly new and there is some elusiveness and unclarity in the usage of different terms. For example, the Finnish Policy documents discuss both the Information Society and the Knowledge Society without making any clear distinction between the two, and there is a very clear difference between the two which needs to be maintained. It is perfectly possible that the Knowledge Society and the Information Society may never in practice meet up, and the latter frequently seems to dominate actual implementation by typically channelling development cooperation projects into infrastructure projects. In the Finnish 'Development Policy Guidelines for ICT and the Information Society' a short definition is given for both terms and then the text continues: "Whichever term is used… (Ministry for Foreign Affairs of Finland 2005, 6)." It is clear that it is not the same whichever term is used. The expression is both ambiguous and unhelpful. It implies a lack of clarity and precision in both concepts. In consequence the document text creates an ambiguity as to what is needed and desired.

To be specific the use of information and communication technologies requires particular skills and understandings of the technological conceptual context. This skill could be defined as understanding the language of ICT or indeed simply understanding ICT. This skill is crucially needed to achieve functionality in the ICT context. If this skill is lacking, the users (and especially poor users in developing countries) will inevitably feel socially excluded (Britz 2004). Voluntary exclusion is also a common phenomenon; individuals frequently do not see any need to be part of the information society. Connectivity or even the possibility of being connected (e.g., financially, linguistically, physically) is important for the well-being of people in terms of their perception of being connected (Grantham & Tsekouras 2004). To this end, for example, the Brazilian Government has launched a digital TV project aimed at promoting social inclusion in a country where sports and soap operas are seen as a means towards and an important element within national identity construction (Holanda, Ávial & Martins 2006).

An interesting phenomenon that touches all users of modern ICT are call centres or contact centres. These centres provide services to the end-users of technology and are provided world-wide in different languages. Chassay and Case (2003) argue that the employees in these centres are socially excluded in several dimensions: from decision makers, from their customers and their colleagues. It is an intriguing thought that these people at the end of the line, providing help, support and encouragement for people they don't know, are doing all this in isolation both from their colleagues and supervisors. This type of 'help' is unnatural for social human beings but nonetheless too frequently we are forced to either accept it or work out solutions to our problems on our own. Has this ever been thought of in terms of ICT4D and social exclusion? Another aspect of international call centres is that these are often established in developing countries because of cheap labour costs and all too often the workforce does not enjoy the same benefits that their counterparts in the developed world do.

Social inclusion has also been connected with issues relating to access to information and communication technologies for people with disabilities (Jaeger 2006). Inclusion in relation to Education for All and Inclusive Education concepts is often seen as creating opportunities for disabled; however, the use of ICTs in Inclusive Education projects is not normally seen as part of the ICT4D.

This aspect of social exclusion rarely seems to figure specifically in ICT4D policy statements. The relationship between disability and development rarely gets a mention. Of the estimated 600 million disabled people worldwide, 70% live in developing countries, and according to UN statistics, 82% live below the poverty line. People with disabilities are among the most vulnerable and marginalized in developing countries. Disabled children are the least likely to go to school and the mortality rate of children with disabilities in developing countries is comparatively much higher than that of non-disabled children. Much disability in developing countries is preventable and is closely related to malnutrition, poor sanitation, disease, poverty and conflict.

Traditionally disability has received limited attention from aid agencies and donors. It is clear now that, if the Millennium Development Goals are to be achieved, the needs of disa-

bled people must be considered alongside other development challenges by national governments, donors, international organisations and NGOS. (Irish White Paper on Aid, 2006) This seems to be particularly the case for ICT4D where there are many ways in which information technology can support and assist those with physical and mental handicaps.

Similarly, whilst there is recognition of the potential of ICT as a tool for the promotion of gender equality and the empowerment of women, a "gender divide" has also been identified, reflected in the lower numbers of women accessing and using ICT compared with men. Unless this gender divide is specifically addressed, there is a risk that ICT may exacerbate existing inequalities between women and men and create new forms of inequality. If, however, the gender dimensions of ICT—in terms of access and use, capacity-building opportunities, employment and potential for empowerment—are explicitly identified and addressed, ICT can be a powerful catalyst for political and social empowerment of women, and the promotion of gender equality. "In the past few years, the global community has seen the "gender issue" come onto the agenda. Despite economic and socio-cultural barriers to women's use of Information and Communication Technology (ICT), when women are able to use them productively, they can substantially improve their lives and increase their income. They have proved useful in: health care delivery; distance education; enhancing rural productivity through access to market information and access to finance; promoting empowerment and participation in national and international policy processes; improving service delivery by governments; improving environmental monitoring and response systems; and facilitating environmental activism. In general, women make up a small percentage of internet and computer users. This is changing in some countries – generally those which have greater levels of development and gender equality. ICTs are potentially an important knowledge resource for women, but a focus on access is insufficient. We need also to consider what kind of information is being accessed? Who produced it? Who can use it? What is it used for? In sum, we need to view women not as passive recipients of information, but active knowledge and technology developers." (CyberLawIndia, 2006)

Clearly ICTs and policies to encourage their development can have profound implications for women and men in terms of employment, education, health, environmental sustainability and community development. Due to systemic gender biases in ICTs and their applications, it is likely that women will experience discrimination in the information society more than men. Yet despite these constraints, "even resource-poor and non-literate women and their organisations are aware of the power of information technologies and communication processes and, if given the opportunity to do so, will use them to advance their basic needs and strategic interests". (Royal Tropical Institute, 2006)

Nancy Hafkin, a leading scholar on technology, development, and gender, is reported by Rebecca MacKinnon, Assistant Professor at the University of Hong Kong's Journalism and Media Studies Centre, as arguing for the following points in relation to the social exclusion of women in ICT. (RConversation, 2006)

Just because you introduce the Internet into a society doesn't mean that it will be used equally by men and women.

Interestingly, the percentage of women vs. men using In some countries with widespread Internet penetration (the U.S., Canada, and Hong Kong for example) Internet usage is split fairly evenly between men and women. While in other countries with high levels of Internet penetration there is significant disparity (France, Germany, the Netherlands, and the UK). Same in developing countries with low Internet penetration: in some developing countries with low Internet penetration, there are nonetheless relatively equal numbers of men and women using the Internet, while in other countries with similarly low Internet penetration levels, the relative proportion of men and women using the Internet is badly skewed. What this shows is that there are lots of social and cultural factors that dictate the extent to which women will take advantage of the Internet's existence in their country. It also means that choices made by people with power and money - education policy choices, business model choices, and development project funding choices - can all make a difference. Unfortunately Hafkin believes that policymakers, NGO's, and businesses tend to lack awareness about the gender implications of their decisions about how technology will be implemented, taught, or marketed. Hopefully, her ongoing research will help make them more aware.

You can't assume that technology - just by virtue of existing in a society - will bring immediate positive benefits to women's lives.

In fact there may be ways in which the technology might worsen women's lives in the short term. Hafkin brought up the fact that the Internet has fed the growth of the porn industry and the child porn industry, which in some parts of the world increases the victimization of girls and women. She also pointed to studies in some parts of Africa that indicate increased domestic violence arising after women attempt to use the Internet or mobile phones, because their husbands and fathers tended to interpret this as an effort to communicate with other men. She did not raise this as an argument against the spread of technology, but rather to point out that women in some communities may first come into contact with technology via negative experiences such as these, which may in turn cause women and their parents to view technology as a male realm that they had best avoid in order to be safe. This context needs to be understood and kept in mind when we are thinking about questions of gender equality in the use of technology. How do you create opportunities for use of technology that will not feel threatening to women or to family members who may control what they can or can't do?

In communities where Internet and computer resources are scarce, women and girls will be left behind if they don't feel safe or if circumstances to use the technology are stacked against them.

It appears that in developing countries where there is relative gender parity of Internet use, one major reason is that a lot of women are working in the formal economy - i.e., in offices that have computers. Many "ICT4D" (internet and communication technology for development) projects created in rural communities by well meaning non-governmental organizations often fail to create environments that are conducive to women and girls being able to use that technology as easily as men and boys. Parents and husbands tend to be leery of a woman's reasons for wanting to go and spend a few hours a week

> in a computer center. Cyber-cafes are often full of men watching porn and playing violent games, creating an environment in which women don't feel comfortable and or which parents forbid their daughters from entering.

In order for ICT to effectively support the reduction of poverty, inequality and exclusion in developing countries, it must also be used as a tool to aid practical and sustainable interventions which address the underlying causes of poverty. "In the area of education, for example, Irish Aid supports the Dublin-based Global e-Schools and Communities Initiative (GeSCI), which seeks to use these technologies to improve the quality of education in the developing world. GeSCI works with partner countries at the local,
national, and international levels to support, create and implement strategies to harness ICT for education and community growth. (Irish White Paper on Aid, 2006)

> It is evident that at least some EU States are aware that ICT tools applied in such areas as health can assist in reaching the MDG of Promoting Gender Equality and Empowering Women. As DANIDA argues, ICTs are effective tools in changing prejudice and biased concepts on gender role models. Women, who actively participate in using information and communication technology, will face information from a variety of sources and thus be encouraged to change their status, if desired. "The ISIS-Women's International Cross-Cultural Exchange project in Uganda (ISIS/Uganda) is an illustration of the promotion of gender issues by using ICT tools for communicating ideas and creating networks among women, especially in situations of armed conflict, whereas the web portal for rural India (TARAhaat/India) is an example of how information regarding matrimony law issues and subjects on women's health and education can be contained in a web page.(Danida, 2001.)

In development projects involving ICT it is essential to make sure that women are included and/or gender issues considered. ICT can provide new opportunities for women, as for instance in cultures, where women have limited possibilities for social interaction. ICTs can also help female entrepreneurs, who often have limited resources and experiences, by reducing transaction costs, increasing market coverage, and even expanding their businesses across borders.

> As estimates show that men dominate in the use and profit from the new technologies, projects supporting inclusion of women should be encouraged. The ISIS-Women's International Cross-Cultural Exchange (ISIS/Uganda) is an example of the promotion of gender issues in various fields, including business. Women are taught negotiations skills in order for them to be part of peace building process at all levels. ISIS also provides gender disaggregated data, compiles statistics, registers and documents the violation of women ad advocates for peace, security and protection of women, especially in situations of armed conflict. This is done through capacity-building and intelligent utilization of tape recorders, radio, video, television and the Internet. The training and capacity building of women indirectly helps the business sector by provision of a skilled workforce and a transparent and efficient business environment. CEEWA/Uganda is another good case of how rural women can benefit from using ICTs in their businesses, and how the ICT tools have been conducive for increased income generation and sustained livelihoods. (Danida, 2001)

Craig and Porter (2005) argue that words like 'inclusion', 'opportunity', and 'empowerment' are staple diet in policy papers all around the world and cover almost anything without really saying or committing to anything. For example the Finnish ICT4D policy states:

> The integration of ICT into all sectors of development policy also opens up opportunities for integrating other cross-cutting themes of special importance, such as gender equality and the inclusion and empowerment of groups that are in danger of becoming marginalised (Ministry for Foreign Affairs of Finland, 2005, 15).

This ubiquity of the terminology used, according to Craig and Porter (2005) is not a coincidence. At worst usage of such ubiquitous terms could be used to try to ensure that recipients of development assistance could be easily governed and lulled into an inactive state of acceptance without criticism.

> In general, we note that liberal projects of 'including' the poor have involved stingy charity, 'responsibilization', education, surveillance and policing, while keeping questions of existing property and power distributions off the political agenda, keeping a close surveillance on the poor, and waiting for growth to deliver what wellbeing it will. (Craig & Porter 2005, 228)

Development cooperation is often seen as and defended as being a political act of good will, closer to philanthropy than policy making. However, as Craig and Porter (2005) dispute, this view can be challenged:

> In evoking plural, consensual rather than conflictual rationales and technologies of social inclusion, 'inclusive' liberalism is deeply ideological, powerfully conservative, and morally totalizing (Craig & Porter 2005, 229).

Social inclusion and inclusive policies are normally seen in a positive light as a process where all people have the possibility to participate, to feel included. Sometimes, especially with e-Inclusion movement this leads all too easily into idealised optimism and manifestations of fanciful dreams rather than harsh realities.

> The beauty of a social movement is that it is a boundless, free flowing association of people sharing and pursuing in myriad ways the realization of a dream. --- The bond—whatever its manifestation—is simply the shared dream and the desire to do something about it. So it should be with the 'e-Inclusion' movement and the key is just to plant the seeds worldwide and 'let one thousand flowers bloom' so that in years to come we may see the Earth as a garden for all. (Molina 2003, 143)

The most developed countries are developing their own e-Inclusion strategies. Kaigo reports on Japan's e-Japan strategy and warns about the possibility that it contains built-in exclusion of a portion of the elderly and weak, who do not wish to enter the "…competitive cycle of updating oneself in order to maintain one's position in digital stratification."(Kaigo 2005, 345-346).

E-Inclusion specifically and social inclusion generally can surely help international donors and developing countries as useful concepts when widely used and well understood. But,

once again, the global processes involved in introducing concepts and then their practical implementation can have an adverse effect:

> An idealized, undifferentiated and universal account of globalization operates as the super-ordinant norm, demanding a comprehensive repositioning of individuals, places, classes and productive means, which in the end becomes the true basis of 'inclusion'. (Craig & Porter 2005, 251).

Craig and Porter (2005, 257) argue that Poverty Reduction and Social Inclusion Strategies and the reforms based on these strategies are ". . . *actively managed from top to down*, drawing potential adversaries into managed dialogues and partnerships." If this is indeed the case, it would certainly help to control and manage those who are seen as the most potential critics and opponents of the proposed reforms. This kind of viewpoint does seem to be one possible interpretation of some of the expressions of the Finnish Information Society Development Goals where the Guidelines refer to WSIS Goals and state that the first goal is the Reduction of Poverty by making use of ICT, and then goes on to say:

> Elimination of social and cultural poverty and social exclusion by integrating ICT solutions into the sectors that are important for people's quality of life (Ministry for Foreign Affairs of Finland, 2005, 8).

The nature of policy statements is such that they are frequently bland and are the results of political compromises and consensus reached during the negotiation and preparation processes. This inevitably leads into situations where the statements become so broad that it is difficult to decipher the original intentions behind them. Whilst it is likely that this situation is irredeemable, we do well to take heed of its deleterious effect on both policy interpretation and implementation.

3.3. Shared Knowledge

> Information and communication technologies (ICT) are opening fresh pathways for transforming the way we live, work, learn, and communicate. They can contribute to the construction of true knowledge societies based on the sharing of information and incorporating all socio-cultural and ethical dimensions of sustainable development. (UNESCO 2006.)

An Information Society cannot be built without sharing information, best practises and knowledge. This requirement was emphasised in the Geneva Declaration of Principles (ITU 2005). Collecting, analysing and sharing knowledge is essential in enabling and promoting collaborative efforts in development (Lanvin & Neto 2005). It is therefore somewhat surprising that at least some EU States have not seen fit to address these issues in their public documents. For example, there is no reference in the recent Irish Government White Paper on Irish Aid (Irish White Paper on Aid) to either the Information Society or to Shared Knowledge. On the other hand there is evidence of confusion about the nature of what constitutes Shared Knowledge in some policy documents. Danida on its 'Good ICT Practice – Lessons Learned in Education Sector' website – asserts, "Good ICT practice cases at school

level demonstrate that information sharing and coordination between schools, NGOs, local government and MOE is valuable (e.g. Schoolnet and Uconnect in Uganda). Uconnect, which has strong support from MOE has supplied many schools with refurbished, used computers retrieved from Europe at very low-cost, and Schoolnet has had great success with connecting school computer labs through Local Area Networks (LAN), of which some are connected to the Internet with wireless technology such as VSAT". (Danida, 2001) It is difficult to conceive how the provision of second-hand computers goes any way towards sharing information or knowledge.

Aida Opoku-Mensah, has evaluated the Geneva WSIS from the perspective of the team leader for the UN Economic Commission for Africa's (ECA) ICTs for Development Programme of the African Information Society Initiative (AISI), based in Addis Ababa, Ethiopia. He sees clear value in the process; emphasising the role of the African countries in the forefront of the development of the Information Society. However, he also acknowledges the numerous challenges the WSIS process has still left unanswered before the Tunis Summit (Opoku-Mensah 2004). After the Geneva and Tunis summits, an analysis of their impact on national and international policies is, he claims, now needed.

When we discuss the knowledge society, it is incumbent upon us to have a clear understanding as to what kind of knowledge we are referring to (UNESCO 2005, 147). Unless this is made clear, it is likely that the western highly technological and scientific types of knowledge will be the only type assumed relevant. In extremis this could lead to a situation where:

> "---the manner in which the exclusion of other traditions of knowledge by reductionist science is itself part of the problem that has led to myriad failed development initiatives all around the world (Odora Hoppers 2002, vii)"

But what types of knowledge are we talking about? Do we have to endorse the hegemony of the techno-scientific model in defining legitimate and productive knowledge? And what of the imbalances that mark access to knowledge and the obstacles confronting it, both locally and globally? Surely emerging societies cannot make do with being mere components of a global information society. To remain human and liveable, knowledge societies will have to be societies of shared knowledge. And the plural here sanctions the need for an accepted diversity. A number of studies on the new status of knowledge and the growing reflection of these questions in development initiatives now afford the necessary detachment for an initial assessment and the drawing of conclusions such as to prompt a wealth of proposals in this field.

Knowledge societies should become societies of shared knowledge, where one-dimensional definitions of knowledge and sharing have been transmogrified into understandings and appreciation of multi-dimensional knowledges. These knowledges are often tacit, and frequently transferred only orally. The lack of written communication and Western standardised systems of writing, referencing and, above all, Western technological discourse with its specific jargon, can easily lead to the exclusion of indigenous and local knowledge systems.

> "…indigenous knowledge is, without demur, all too often evaluated according to prevailing Western standards of epistemology, logic, scientific method, ethical theory, and universalist assumptions in international law." (Swazo 2005, 569)

By those evaluation criteria, it is almost inevitable that Indigenous Knowledge is judged as being not scientific enough; not logical enough; not rigorous enough, for it to be 'proper' knowledge. Education is definitely one of the key signifiers in promoting traditional knowledges and at the same time one of the most challenging ones. Iseke-Barnes (2005) especially urges professionals in education to take responsibility for ensuring that indigenous epistemologies are considered both to be valuable and valid. She argues that the dominant society always privileges some representations at the cost of other representations. Critical education is of importance in raising this kind of awareness among the students.

Alongside the technological and scientific knowledge that forms the backbone of the information society, what role can be played by other knowledge systems? What is to become of local knowledge, in particular "indigenous" knowledge? It is thus clearly essential, in the context of shared knowledge societies, to ensure the effective promotion of local knowledge as living knowledge and, whenever necessary, to guarantee its protection against all forms of *biopiracy*.

And how are we to reconcile the participation of all in *knowledge sharing*, understood as the quest for consensual truth, with the pluralism of values and the proliferation of forms of self-expression? The preservation and promotion of pluralism will necessarily have to accompany the emergence of knowledge societies wherever the world information society has been seen as a potentially one-dimensional model.

Intellectual Property Rights (IPR) are a very sensitive and widely debated issue in connection with traditional knowledge. The Finnish Government touches on this issue in its policies only by referring to international organisations such as the UN and ITU and emphasising access to information in connection with the IPR. (Ministry for Foreign Affairs of Finland 2005, 16). However, IPRs can be seen as a form of spreading globalisation in its negative form, destroying or denying the rights of indigenous groups and their knowledge. Medical science and the price of goods protected by IPRs (UNESCO 2005, 102) are often used as examples of the challenges of IPRs in development cooperation. Martin & Vermeylen (2005) argue that the global industries by working with Western concepts of intellectual property rights and legislation, this is paving the way for neo-colonialism and biopiracy. The UNESCO report (2005, 106) on the other hand, argues for more legal expertise and counselling for actors in the developing countries to help them to protect their IPRs. The work of World Intellectual Property Organization (WIPO) is supported (inter alia) by the Finnish Government. However, more work needs to be done to prevent such biopiracy (UNESCO 2005, 149-150). Briggs (2005) warns that we should avoid creating artificial binary tensions between Western and indigenous knowledges and he also claims that indigenous knowledge is often romanticised – and thus devalued.

Shared knowledge is an essential concept of knowledge-based aid. Knowledge-based aid is seen as an outcome of the combination of Post-Fordism, globalisation and the ICT Revolution. Together these components work together to enable the transformation of information into knowledge (McGrath & King 2004).

An interesting controversy in the processes of sharing knowledge has been pointed out by McGrath & King (2004). The contextual awareness in sharing knowledge (i.e., training participants from developing countries) has been recognised and emphasised. However, at the same time the use of ICT for distance learning may actually lead into even more standardised acceptance of universal knowledge where the context of the learners is even more distant than in traditional face-to-face training. They also argue for more evidence on the actual impact of the knowledge-based aid on the lives of the poor in the South.

Furthermore, the one-dimensional view of sharing knowledge results in claims such as this one by the Statement by the Danish Minister for Development Cooperation at the presentation of the World Bank's World Development Report 2007, "ICT tools have proven to be effective in creating dialogue, sharing knowledge, gathering reliable information, as well as promoting research. Knowledge sharing initiatives like PERI/Ghana and Healthvideo/Ghana are examples of ICT projects adding to these efforts. Additionally, the project of Equal Access – Digital satellite radio in Nepal, raises awareness on reproductive health, women's empowerment and HIV/AIDS in remote and isolated areas of Nepal, utilising a combination of satellite technology, radio, multimedia and solar panels, through which knowledge about HIV/AIDS has been increased in the communities." There is no sense here of the need to 'SHARE' knowledge rather than to simply transmit it.

Knowledge sharing can happen both internally and externally. McGrath & King (2004) argue that the possibility of inter-agency knowledge sharing may lead to more concerted actions which could then reduce national ownership in the beneficiary countries. Thus internal knowledge sharing is clearly a problem for large organisations and agencies and there is frequently a lack of coherence within the donor agencies. McGrath & King (2004, 179) also point out that:

> Perhaps most crucially, it is far from clear what knowledge-based aid is likely to do to improve the lives of those who are ultimately the supposed beneficiaries. Too much of knowledge-based aid is based on the questionable assumptions that better knowledge makes for better policies; and that better policies lead to better lives.

Chikonzo (2006) lists the lack of funding, poor infrastructure and lack of training as the biggest challenges for collecting, preserving and disseminating indigenous knowledge in Africa. Digitalisation is ideal for preserving and organising Indigenous Knowledge but it also creates an opportunity for misuse of the traditional knowledge (Sen 2005). Ownership of traditional knowledge needs to be discussed. Quite often it could be said that the ownership is of a collective nature, and thus claiming copyrights, IPRs or simply ownership for traditional knowledge can become very complex (Sen 2005).

Thus, the development of ICT and the Information Society may well bring change, but not change that is necessarily or automatically positive in nature. As Britz (2004, 196) writes,

> "…the use of ICTs, with their own language, plus English as the dominant language of interaction, creates a new international standard for economic activities. This international 'information context', driven by a sophisticated, but foreign information infrastructure, is forced, in a manner of speaking, on developing communities. In this process these communities are alienated from their own economic processes, forms of communication, and indigenous information contexts."

Furthermore, whilst indigenous people around the world are becoming more interested in information technology because they see it as a way to preserve their traditional cultures for future generations as well as a way to provide their communities with economic and social renewal, at the same time, in addition to barriers such as the cost of the new technologies, geographic isolation, and a lack of computer literacy, there is also there lack of affordance that inadequate concepts of 'shared knowledge' add to the problem.

4. Conclusions

We have identified some of the ways in which the European Union and three EU member states support development in partner countries using a range of impacts of ICTs on economic and social development and growth. However, it has become clear that we need more knowledge about the most conducive conditions for making ICTs an effective instrument, for example, for the poor to improve their own standard of living. ICT applications in developing countries are often part of an overall strategy for economic growth, relying on the trickle-down effect to those in poverty. It is, as yet, unclear how ICT-related inputs to development have, or indeed can, match the problems and potentials of people living in poverty, such as illiterate people, unskilled labourers, self-employed micro entrepreneurs, subsistence farmers, women, people speaking minority languages or populations living in remote areas.

Our analysis of the ways in which these three EU states in particular prioritize the use of ICTs as a function of their development programme would seem to support the pre-theoretic assumption that the use of ICTs for development would tend to parallel the ways and extent to which ICTs were embedded in the national culture and technological infrastructure.

One example of this might be seen in the current broadband coverage in Ireland, Denmark and Finland. Broadband growth is uneven across EU Member States. The best performers on broadband penetration have been and are the Netherlands, Denmark and Finland with a penetration rate above 24%. Sweden and Belgium follow closely and the UK and France are getting close to 20%. Most of new Member States and Ireland lag behind. Ireland reached the penetration rate of 8.8% in by the end of 2006 (Eurostat 2007).

Thus there are about 1100 exchanges in Ireland. Eircom has plans to broadband-enable around 400. Exact numbers are not clear but it is believed not more than 450. The map displays the current situation with just under 400 exchanges enabled. Each yellow circle is where you can get broadband but even then the failure rate is 20%. (Mulley 2006) The Eircom Company sees the situation differently, claiming that they are "…in line with the Western European (EU15) average and ahead of the United States (Eircom 2006, 4)."

Comparing this with Finland, where 53% of Finnish households had broadband Internet access in January 2007 and 96,1% had the possibility to obtain a fixed broadband connection, and all Finnish high schools had broadband access to the Internet, we can interpret a huge gap between the two countries (National Broadband Working Group 2007).

It is interesting to see that this relationship between the ways and extent to which ICTs were embedded in the national culture and technological infrastructure as compared with the perception of the relative significance of the role of ICTs in development work, is so evident in Finland and in Denmark. However, national strategies for information society and development cooperation strategies are not communicating with each other and there is very little if any cooperation between the responsible government offices for these two areas.

Our explorations of the manifold issues of digital divide, social inclusion and shared knowledge as highlighted in the WSIS Tunis Commitment have identified the disparate ways in which these terms are used and something of the ways in which these issues are affecting national internal policies. It has become clear that there is no shared understanding of the main concepts behind the policies. These main concepts include: Information and Communication Technologies for Development, Digital Divide, Social Inclusion and Shared Knowledge. Much clearer definitions of these concepts in the development policies and further on in the implementation of these policies are needed. Both academic and policy debate and discourse on these issues are available for policy planning purposes. It is crucial to get rid of the ambiguity of terminology used and take a firm stand on the key concepts.

The World Development Report 2000/2001 “Attacking Poverty”, the World Bank (2000) describes the road from poverty to well-being being built on empowerment, opportunity and

security. According to Gerster and Zimmerman (2003) it identifies four alternative strategies for poverty reduction, and their capacity to make use of ICTs:

- a production-oriented growth strategy, including pro-poor corrective measures;
- the sustainable livelihoods approach, putting people first;
- a distribution-oriented strategy, emphasising the redistribution of assets;
- a rights and empowerment strategy, promoting knowledge about basic rights and empowerment of people.

The role of ICTs in poverty reduction is not limited to reducing income poverty, but also includes non-economic dimensions— in particular, empowerment (Gerster and Zimmerman 2003). Richard Curtain (2004) has compiled a very useful checklist for Information and Communication Technologies for Development projects (Annex 2.). We feel that this simple list with the elaborations that can be found from Curtain's document could be valuable in order to find ways to enhance the fight against poverty via ICT.

Finland is an exception by having dedicated personnel for the Information and Communication Technologies for Development Cooperation. Dedicating one advisor to the Ministry headquarters and another to the Embassy in Pretoria, South Africa, is an example of the appreciation of these issues in the Development Cooperation policy planning and implementation. The European Union, by comparison, has just one person and Denmark and Ireland don't have any personnel allocated for ICT4D.

> "Unfortunately, Irish Aid does not have a policy for ICT4D, so I'm not sure how we will be able to assist you in your research. We also do not have an Adviser or focal person in this area." (personal information by e-mail)

It is not clear how the development cooperation partner countries are selected for individual donor countries. A mixture of historical, religious and political ties can be found behind the decisions. The international donor community has largely agreed by default to untie their aid for developing countries one with another. However, one may question whether the 'aid for trade' concept has been brought in to substitute the 'tied aid' concept? It is hard to detect what is the difference between the two.

Bridging the Digital Divide can leave the majority of people still to the other end of the bridge. Our research indicates that there is quite a lot of concern whether the ICT4D actually broadens the divide nationally in the developing countries. In the short time span this seems to be inevitable and the hope lies in long term development. There should be clear measures for ensuring that national digital divide is not widened through development cooperation effort in ICT.

Sharing knowledge and expertise are very vaguely used terms. In many cases the examples given, even in the policy documents seem to describe a process of knowledge transfer rather that actual knowledge sharing. True participation and ownership will not be felt if the traditional, indigenous knowledge and shared knowledge concepts are not clarified. Both the policies and their implementation should make very clear what is meant with these concepts and

how these concepts are understood and implemented in planning, implementation and evaluation processes of development cooperation.

Social inclusion is quite often too narrowly understood. It is often reduced to concern only enabling access for disabled persons or other marginalised groups to the information society. This discourse misses the important aspect of inclusion: there is no inclusion without everyone included, also those who are not so visibly and obviously disadvantaged, and those who are not disadvantaged at all – all of us, in all countries.

To some extent at the policy level but more definitely at the implementation level information and communication technologies for development still seem to be more about the ICT than about the Development. Infrastructure and technology still dominate in case studies and in exemplar pilot project lists. Mainstreaming ICT into development cooperation is still mostly understood as providing computers for project or sectoral workers in developing countries.

Regarding replication of successful implementation and use of ICT, DANIDA points to lessons learned that highlight that sustainable ICT innovations should always address a widely shared need or problem of the poor and to some extent build on and improve existing local technologies or approaches. Additionally, successful ICT innovation should:

1) Be simple to understand and to implement.
2) Be culturally and socially acceptable.
3) Be affordable to the (rural) poor in terms of financial and time constraints – most often ICT inclusion is funded by international donors in initiating stages.
4) Be low risk, and not endanger the basic survival of the poor.
5) Be able to modify if they do not work out, and
6) Should not have any harmful effect on the environment.
(DANIDA 2001.)

Despite the enormous amount of effort spent on the WSIS process, ICT4D is still mostly missing from the development cooperation policies of the member countries of the European Union. In this respect Finland and Denmark are exceptional. The Finnish policy is probably one of the best if not the best national ICT4D policy paper within the European Union. This is not to say that all work necessary has now been done in Finland or Denmark (or Austria, which also has specific policy for ICT4D). As we have pointed out, more clarity, cohesion and mainstreaming are still needed in all countries wishing to enhance the Global Information Society.

Recommendations:

1. More cohesion is needed between national strategies for information society and national strategies for development cooperation within the member countries of the European Union. Cooperation between the respective government organisations have to be enhanced.

2. Clearer definitions of the key concepts for ICT4D are needed in the development policies and further on in the implementation of these policies.

3. More personnel for the Information and Communication Technologies for Development Cooperation are needed within government sections responsible for development cooperation.

4. It is not clear how the donor countries select the individual development cooperation partner countries, especially in ICT4D. More transparency is needed in outlining the selection process.

5. There should be clear measures for ensuring that national digital divide in the partner countries is not widened through development cooperation in ICT.

6. The policy documents seem to describe a process of knowledge transfer rather than actual knowledge sharing. Both the policies and their implementation should make clear how the concepts of traditional knowledge and indigenous knowledge are understood and implemented.

7. The concepts of social inclusion and inclusive information society should go beyond enabling access for marginalised groups into the information society.

8. Apparently, information and communication technologies for development are still more about ICT than Development. Infrastructure and technology should be a tool for overall development, not an outcome itself.

9. ICT4D should be mainstreamed to the overall development policies of the member countries of the European Union.

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Annex 1. WSIS RELATED ICT4D PROJECTS FUNDED BY THE MINISTRY FOR FOREIGN AFFAIRS 2004-2009 (2005 update)

Partner	Programme	Duration	Financing	Programme Purpose
Nicaragua	Integration of Information and Communication Technologies (ICT) in the sector of Municipal Management and Decentralization in Nicaragua	2006 - 2009	Finnish support: 4,9 M€ (programme under preparation)	To improve and enhance local democratic processes and good governance through the use of Information and Communication Technologies (ICTs)
South Africa	INFORMATION SOCIETY STRATEGY PROGRAMME "INSPIRE" - Cooperation between Provincial Government of Northern Cape, PNC on ISAD in South Africa and Finland in the field of development of provincial information society strategies	2006-2008	Finnish support: 1,5 M€ (programme under preparation)	The overall objective of the project is to create sustainable and human-centred Information Society that serves its stakeholders and partners. It delivers improved access to information and services, enhanced opportunities for communication, and business opportunities - especially SMME's - for all beneficiary groups through an efficient use of ICT.
South Africa	COFISA - Cooperation Framework on Innovation Systems between Finland and South Africa	2006-2008	Finnish support: 3 M€	The main objective of the Finland-South Africa Cooperation Framework on Innovation Systems is to create a South-African Innovation programme for SA Department of Science & Technology.
South Africa	MERAKA Institute support - Finland - South Africa knowledge partnership on ICT programme (SAFIPA)	2007 - 2009	Finnish support 3 M€ (Under preparation)	The overall objective of the programme is to support MERAKA institute in creating an environment which facilitates the development and deployment of ICT service applications for the benefit of South African citizens.
South Africa	Support to the Higher Education Sector (ICT component)	2004-2007	Finnish support: 8,3 M€	To improve the capacity of the Department of Education and the institutions of higher education to contribute to the national development along the principles of the White Paper 3
AIT - Asian Institute of Technology	Support to the Information and Communications Technologies (ICT) Program	2004-2006	Finnish support: 3M€ : ICT Program € 1 722 000, ICT Scholarships € 1 355 000.	Providing high level master and doctoral programs for students coming from Asian countries with considerable pulp and paper production. To increase knowledge and usage (in the region) of ICT, Telecommunications & Internet.

Partner	Programme	Duration	Financing	Programme Purpose
UN ECA Economic Commission for Africa	Cooperation between Finland and ECA in the Field of ICT	2003-2006	Finnish support 2 480 000€	To build on the past and ongoing efforts to support member states in the area of ICT policy formulation and scale up to the stage of policy implementation and ICT mainstreaming in various socio-economic sectors, while expanding efforts to assist regional economic communities in harmonizing and consolidating national efforts at the sub-regional levels.
Palestine	Digital media education, II phase	2005-2007	Finnish support 400 910 €	To improve the social and political status of the Palestinians by introducing the latest technological development in the media sector. To create an environment for virtual education.
Vietnam	Finnpartnership - ICT sector partnership programme	2006-2007	(Programme under preparation by Finfund - Funding depends on partnerships)	
Vietnam	Support to the enhancing of the administration of trade	2000-2004	Finnish support 2,5 M€ (Finalized)	Improve strategic planning and information systems at the Ministry of Trade in the department of home trade policy. To improve the capacity of the personnel in the department.
Indonesia	FIND - University collaboration on Virtual University development	2005-2007	Finnish support ~ 200 000€	
Egypt	Institutional partnerships on e-learning	2006-2007	Local development co-operation fund - (under preparation)	University co-operation in the field of e-learning and life long learning.
Egypt	Fortum nuclear power simulation / EIT appropriation project in Egypt	2004	Finnish support 84 000 € (Finalized)	
Sarajevo	ERNO: Regional news media exchange project	2004-2007	Finnish support 450 000 €	The overall objective of ERNO is the promotion of mutual understanding between the nations in the region via the news and media materials provided by the participating broadcasters.
InfoDev (MFA 2005 -)	Multi stakeholder initiative	2005-2006	Finnish support 1 M€	Support for Asian developing countries on e-learning and SME development on ICT
International Telecommunication Union	Feasibility Study on National ICT Strategies in the Asia-Pacific Region	2004-2005	Finnish support 0,1 M€ (finalized)	
International Finance Corporation	ICT sector support	2004-2005	Finnish support 175 000 € (Finalized)	
UNIFEM/ITU	WSIS process	2003	Finnish support 170 000 € (Finalized)	
UN GAI - Global Alliance for ICT4D	WSIS follow-up process	2006 -	Finnish support 200 000 €	
UN IGF - Internet governance forum IGF	WSIS follow-up process	2006 -	Finnish support ? € (under preparation)	

Annex 2.

Good Practice guide to the use of ICT for Development by Richard Curtain (2004, 29)

Box 3: Proposed key components of a good practice guide to the use of ICT for development		
1	Why?	Is the use of ICT-based project aimed clearly at achieving a poverty reduction goal?
2	Who	Is there a clearly specified target group for poverty alleviation?
3	How?	Is the form of ICT to be deployed appropriate in terms of cost, support, maintenance and compatibility with existing information flows?
4	How?	Is the form of ICT to be deployed scalable to enable it to be replicated and expanded
5	How?	Are appropriate intermediaries being used?
6	How?	What scope is there for public private partnerships?
7	What?	Is the content transmitted by the ICT relevant to the audience and is it in a language easily understood by the target audience?
8	How long?	Is the project self-sustaining over what period?
9	How well?	What performance measurement, monitoring and evaluation processes are in place?
10	What risks?	10 Managing risk: 'What unexpected events or situations might arise?' and 'What should be done to manage these?